THE MEDICAL JOURNAL OF AUSTRALIA

VOL. I.—37TH YEAR. SYDNEY, SATURDAY, FEBRUARY 4, 1950. No. 5.

Table of Contents.

[The Whole of the Literary Matter in THE MEDICAL JOURNAL OF AUSTRALIA is Copyright.]

ORIGINAL ARTICLES— Page.
- An Address—Australia in the Making, by Douglas J. Thomas .. 137
- Final Results of Long-Term Therapy with Methyl Thiouracil in Thyreotoxicosis, by Hugh R. G. Poate .. 139
- Psychiatric Aspects of Dyspepsia in Soldiers, by D. W. H. Arnott, M.B., Ch.M., D.P., F.R.A.C.P. .. 143
- Neurosurgical Applications of Electroencephalography, by Gilbert Phillips, M.S., F.R.A.C.S. .. 145
- Some Modern Trends in Electroencephalography, by Geoffrey Trahair .. 146
- Electroencephalography and Neuropsychiatry, by Alan Stoller .. 148
- The Prevention and Control of Tuberculosis in Childhood, by H. W. Wunderly .. 151

REVIEWS—
- Bedside Diagnosis .. 154
- Occupational Poisoning .. 154
- The Retarded Child .. 155
- Sanitary Science .. 155
- A Year Book of Medicine .. 155
- Hæmatology .. 155
- Obstetric Analgesia and Anæsthesia .. 156

NOTES ON BOOKS, CURRENT JOURNALS AND NEW APPLIANCES—
- Training for Childbirth .. 156

BOOKS RECEIVED .. 156

LEADING ARTICLES—
- Success .. 157

CURRENT COMMENT— Page.
- Experimental Encephalomyelitis .. 158
- Spontaneous Rupture of the Spleen .. 159
- Further Studies in Aureomycin .. 159

ABSTRACTS FROM MEDICAL LITERATURE—
- Dermatology .. 160
- Urology .. 161

BRITISH MEDICAL ASSOCIATION NEWS—
- Annual Meeting .. 162
- Scientific .. 168

POST-GRADUATE WORK—
- The Post-Graduate Committee in Medicine in the University of Sydney .. 169
- The Melbourne Permanent Post-Graduate Committee .. 169
- Seminars at Royal Prince Alfred Hospital .. 170

OBITUARY—
- Marie Brown .. 170
- Leslie Scott Latham .. 171
- Cyril Charles Minty .. 171

DISEASES NOTIFIED IN EACH STATE AND TERRITORY OF AUSTRALIA .. 171

CORRESPONDENCE—
- Syphilis Resurgens .. 171

NOMINATIONS AND ELECTIONS .. 172

DIARY FOR THE MONTH .. 172

MEDICAL APPOINTMENTS: IMPORTANT NOTICE .. 172

EDITORIAL NOTICES .. 172

An Address.

AUSTRALIA IN THE MAKING.[1]

By DOUGLAS J. THOMAS,
Melbourne.

WE, the people of Australia, have reason for intelligent pride in the development of our country in the comparatively short span of 150 years. A nation has been founded, our wool and wheat have made us famous, the building of great cities and towns, universities, galleries and libraries has given us a name in the world. In two world wars our sailors, soldiers and airmen covered themselves with glory.

But it would be idle to pretend that all is well with us. Much of our development has been ruthless. The soil has been robbed, our forests have been destroyed and a startling quantity of precious topsoil has been lost throughout the length and breadth of the land. Surely the time has now come when, the first eager rush of colonization over, we should quietly take stock, and plan our future with vision, courage and restraint. It is a healthy symptom that there is in the community a growing recognition of the menace of soil erosion and of the need for soil conservation.

The late Sir Arthur Streeton, alarmed at the destruction of our forests, painted a large canvas depicting the view looking northwards from the Dandenongs as he feared it might well be within a thousand years. The forests had gone, the mountain contours were smoothed and eroded, and the valleys and streams silted up. I have in my possession another canvas, depicting the same view today. The valleys stand bathed in the full glory of afternoon sunlight. The rich golden brown of the foreground slides imperceptibly into a wonderful harmony of minor greys dominating the middle distance. The mountains are painted in a full range of blue, the artist using lapis lazuli to achieve the famous "Streeton blue". Over all, cumulus clouds, "like voluptuous fleeces, float across the sky". It is to be hoped that the first canvas, full of tragedy and yet of beauty, will help to teach us the need to guard our heritage and to learn that the soil is a living entity.

Until such time as we have formulated a wise policy of engineering and promote a universal knowledge of soil husbandry designed to stop erosion, it will be impossible to say what is the optimum population of Australia. Let us hope that the many thousands of Australian troops who served in the Middle East, and who saw with their own eyes the terrible consequence of uncontrolled soil erosion, will bend their energies toward the saving of the precious topsoil of their native land.

In 1935 I visited Locarno for the purpose of seeing the room in which the Treaty of Locarno had been signed. The clock upon the wall stood still, its hands pointing silently to the time of signing. But, of even greater interest than this, was the remark passed by the concierge when he learned that we were Australians. "Australians, the people with the funny passports", he said. On being questioned as to why our passport was an object of derision, he replied: "There is nothing in your passport to say who or what you are." Digging in my pocket for my own, I then examined the outside cover, and was dismayed to realize how stupid the two dehydrated animals stamped thereon appeared in the light of this criticism. Looking within, I found that apart from one brief reference to His Britannic Majesty there was nothing

[1] Read at the annual meeting of the Victorian Branch of the British Medical Association on December 7, 1949.

to show that we were British people. Later the same year, at Friedrichshaven, I had a brisk encounter with petty Nazi officials. I think the party in which I was travelling was being suspected of smuggling German currency out of the Third Reich. At least it was very clear that these officials again failed to realize that our passports were, in essence, of British origin. Being thoroughly annoyed and commanding whatever dignity I possessed, I turned to one objectionable individual and said: "Don't you realize that we are British subjects?" Immediately his attitude changed, and within a minute or two we were safely aboard the steamer bound for Romanshorn.

These incidents rankled in my mind, and on reaching London I wrote to a personal friend, then a member of Federal Cabinent, and requested that steps be taken to have the words "British Passport" stamped on the outside cover of the Australian passport. In due course I received a reply from him informing me that, after consultation with the British Government, it had now been agreed that in future these golden words should appear on all Australian passports. Over the next few years I discussed this matter with many world travellers and found that a great sense of security and comfort was given to them every time they produced their new Australian passport. They were afforded a great measure of courtesy and help because of these two words stamped on the outside cover of their passport. But alas, the scene has changed. Today the Australian passport is not held in high regard.

Australians are treated in many parts of the world with scant courtesy, and it is abundantly clear that we are an unpopular people. In Egypt one is liable to have his pockets turned inside out and a close personal friend of mine was, quite recently, summarily taken into custody. Another friend of mine, seeking to enter another country, was closely cross-examined with a view to determining whether he was an Indonesian sympathizer or not. In spite of the efforts of our emissaries abroad, the standing of Australians and of Australian passports has steadily declined and we must now face the solemn fact that years of steady effort will be needed if we are to secure for Australia and for ourselves the recognition and standing to which we are entitled. Moreover, we are a vulnerable people. Any aircraft leaving Australia and travelling north will inevitably "touch down" in a country teeming with millions of people whose standard of living is but a shadow of our own, and whose eyes are turned southward towards this vast country relatively unpeopled and relatively unpopular.

It becomes increasingly clear that in Australia we must populate or perish, and that even though we populate, unless we build carefully and wisely we may still perish. With the steady decline in our birth rate, there can be no argument against the statement that if we are to populate rapidly, we must do this by invoking a vigorous policy of immigration.

Time will not allow me to deal further with the problems of soil and water conservation, with decentralization and with housing, which go hand in hand with our desire to build up our population speedily.

Lest I be misunderstood at this point, I wish to say that in the main the immigration policy of our present Federal Government carries with it my full support. However, I sincerely regret the harsh incidence of our "White Australia" policy. Recently a plea has been made by the Minister for Immigration that we, the native-born people of Australia, should do all within our power to welcome and to make feel at home the new Australians now coming to live among us. Each and every one of us should regard this as a solemn national duty; but great care must be taken to ensure that the people coming to us in this way are truly assimilated within our national life. We cannot afford to allow the growth within our country of foreign pockets composed of people with foreign ideologies and practices. Already it is abundantly clear that many of these people do not understand the Australian way of life and are making very little effort to learn it. Some of them conduct their business affairs with a minimum amount of documentation, and one can only surmise that this is done to secure a maximum amount of "cover up" of their business affairs. If so, this is done to avoid, as far as possible, the incidence of taxation. Unfortunately, taxation in this country has become punitive, and it is becoming increasingly difficult to save and at the same time to live honestly and well.

There is an increasing tendency and desire in the community to do things not quite "on the line". It has been said that the supreme function of government is to make it easy to do good and difficult to do evil. If this is true, then the wheel surely has spun almost a full half-circle. With the growth of the party political machine, succeeding elections have become more and more a time for promise and for barter if not for bribery, and all too frequently little appeal is made to worthy instincts that surely lie dormant within us all. More and more, two unworthy human emotions, fear and greed, have been played upon in an attempt to secure a permanent political majority for the party in quest of power.

In spite of many years of universal and free education, there has been a steady decline in public thinking. I for one believe that there are three essential subdivisions of society: the Church, the home and the State. I will not enter into argument as to the exact point of limitation of the functions of the Church. In Europe today we are witnessing a tragedy born of struggle between Church and State. There are certain essential functions of the home which the State cannot be allowed to usurp. The increasing tendency, now apparent on all sides, of regarding the State as the source of an increasing number of family benefits, is unsound. If this tendency continues, there will be an inevitable decline in the integrity and sanctity of the home. It is true that "the foundations of our Empire are set in the homes of the people". Every man, every woman, and especially every father of a home has a personal and domestic responsibility which cannot be transferred to the State. The truth of the matter is that the basic unit of society is the home.

In these days we hear a great deal about security. Security lies in freedom and in goodwill. If we sacrifice our freedom, we sacrifice our birthright. I have already stressed the importance of goodwill in our international relationships. I do not propose tonight to attack our "White Australia" policy, but I do wish to make it clear that if we presume to preselect those who come to live in Australia, then we must accept an added obligation—an obligation to serve our country well, to fling wide our doors, and to see that, within our own shores, no social structure is allowed to develop which will one day destroy the individuality of our citizens. "Whatever crushes individuality is despotism, by whatever name it may be called."

I have been dismayed to observe the development in South Africa of the nauseous doctrine of "Apartheid". We in Australia, in possession of vast areas of undeveloped but very vulnerable land, have an especial responsibility to develop this land without discrimination against race, creed, or even colour. This cannot be done by greed or selfishness, but only by working together for the common good of mankind, and it will require an increased sense of trusteeship in our national life. I believe "that it is the duty and obligation of men of goodwill to find the way of cooperation and friendship between members of various racial groups. No person of any race should be deprived of constitutional rights or privileges, merely on the grounds of race, and morally binding contracts protecting such rights or privileges should be regarded on the high level of a pledged word". We must, at all times, determine our legislation and conduct so that there will be no conflict with, or destruction of, basic human rights. To quote Pericles:

> Happiness is freedom,
> Freedom is courage.

We as medical men are deeply concerned with this problem of human happiness, for happiness is the very flower of human health. Happiness is elusive, as elusive as the blush on a maiden's cheek, and not to be captured by direct pursuit. Rather is it the end-result of the combination of physical, moral and economic factors that make for health.

It is interesting to note that Nature in her age-long quest for health and for better biological types has not used a democratic process, but has progressed by a method of competitive individualism—for that is how evolution may be best described. We are too prone in these days to confine our thinking to short-term periods. We should, like Nature herself, plan a long-range programme, and for this reason we must examine the moral component of every social creed or movement which is offered to us. If it contains no moral component it should be rejected, for though it may not damage us, it will surely damage our children or our children's children.

Again I would remind you that whatever destroys individuality is tyranny. It is easy to form a snap judgement and to say that we agree or disagree with this statement; but I would remind you that it needs to be considered very carefully, for it is a double-edged sword. Nothing destroys individuality more than sickness. We must relentlessly pursue the conquest of disease; but if in so doing we employ measures which destroy the moral individuality of one person or of society, whether we realize it or not, we have become the servants of tyranny.

Recently in a trade journal I read an article which was called "Economics and Faith", in which the writer maintained the following points:

> The ultimate solutions for the human problem are not to be found in economics. This does not mean that economics is of little moment, but it does mean that it can at best provide only one part of the prescription for the cure of human ills, and that, in the absence of the other necessary elements, the economic remedies must fail to accomplish their purpose. The core of our discontent today does not lie in economics, or in our inability to find economic solutions; it lies in the higher realm of spirit and morals. The post-war crisis is in truth not fundamentally an economic and industrial crisis at all; it is something far more profound and infinitely more serious. It is a spiritual crisis. It does not concern so much provision for man's bodily needs as provision of sustenance for his soul. It is not a matter so much of livelihood as of life itself.

If this is true, we are urgently in need of leadership. I am reminded of Wordsworth's famous lines concerning Milton:

> Milton! Thou should'st be living at this hour:
> England hath need of thee: she is a fen
> Of stagnant waters; altar, sword, and pen,
> Fireside, the heroic wealth of hall and bower,
> Have forfeited their ancient English dower
> On inward happiness. We are selfish men;
> Oh! raise us up, return to us again,
> And give us manners, virtue, freedom, power.
> Thy soul was like a star, and dwelt apart:
> Thou had'st a voice whose sound was like the sea;
> Pure as the naked heavens, majestic, free;
> So didst thou travel on life's common way,
> In cheerful godliness; and yet thy heart
> The lowliest duties on herself did lay.

Every great leader contains within himself the quality of greatness. To quote from Emerson, "Nothing is more simple than greatness, indeed to be simple is to be great".

My plea, then, is that in the making of Australia we should each of us cultivate a deeper sense of trusteeship, that in our social relationships we should at all times remember the basic obligation of the Golden Rule, and that social legislation should be planned, not for immediate gain, but for ultimate good.

In conclusion, one must regret that the speed, the *tempo*, the undue haste and multiple stresses of modern ways are destroying the rhythm and pattern of our life. Life must be properly balanced between rest and exercise, between thinking and doing. If the rhythm of life is destroyed, then the young become impatient and the old intolerant.

> O proud, impatient Man, allow to Earth
> Her seasons. Growth and change require their winter
> As a tired child its sleep. Thou art that child;
> Lie down. This is the night. Day follows soon.
> Wake then refreshed, wiser for having slept.
> This is old nurses' counsel, and the gods',
> For, if thou rest not, busy maggots eat
> Thy brain, and all is dedicate to chaos.

FINAL RESULTS OF LONG-TERM THERAPY WITH METHYL THIOURACIL IN THYREOTOXICOSIS.[1]

By HUGH R. G. POATE,
Sydney.

A RECENT survey has just been completed of the 200 patients with thyreotoxicosis subjected to long-term therapy with methyl thiouracil, previously referred to in this journal (Poate, 1947, 1948). Treatment has been concluded in these cases for periods varying from fifteen months up to some three and a half years, so that it is now possible to evaluate results correctly and to determine how and why one's methods and opinions have been modified.

The main objective has been to determine what role this form of therapy should or could take in the treatment of thyreotoxicosis, whether a cure could be obtained, and if so in what type of case. It has been possible to follow up every patient probably because they were all private patients, many of whom were under the care of their own family physicians for the major part of their treatment, so that the estimation of final results has not been the assessment of one individual. Complete cooperation has been obtained with every patient. Table I gives the numbers of patients in each age group and class; but it must be pointed out that except for 16 cases of toxic adenomatous goitre, the other 184 were all cases of acute primary hyperplastic toxic goitre.

The 16 patients with toxic adenomatous glands were given long-term therapy because either they refused to consider operation, or they were for various reasons regarded as poor surgical "risks", although subsequently seven of them were operated upon with success.

The 18 patients with recurrent toxicity of the gland following operation or deep X-ray therapy all had the primary hyperplastic type of goitre, and in 10 cases excellent results were obtained. In six cases in which the results were classed as good, obvious traces of the old thyreotoxicosis remained, although the patients were otherwise well and the toxicity was completely controlled. In the other two recurrent cases treatment was suspended; one patient developed persistent leucopenia and was referred for deep X-ray therapy; the other, who developed acute pyelitis during treatment, was unfortunately given sulphathiazole and agranulocytosis supervened. (She was treated efficiently for this and underwent operation elsewhere with a successful result.) It is axiomatic that sulphonamides must not be given concurrently with the thio compounds.

In only four cases (2%) was the treatment suspended —in the other two because of recurrent febrile reactions— so that in 98% the thyreotoxicosis was controlled at the conclusion of treatment.

Factors Influencing Recurrence.

In nine cases, as was previously reported, symptoms recurred between three and eight months after cessation of treatment, except in one case, in which symptoms recurred during the maintenance period. All the patients responded well to a further course of treatment, but as in four of them enlarged thyreoid glands persisted operation was advised. Microscopic examination revealed a good deal of fibrosis in the gland, and scattered areas of hyperplasia were evident, although there was a considerable accumulation of colloid in most acini.

F. H. Lahey (1947), in his Joll Lecture delivered at the Royal College of Surgeons, stated that hyperplasia was present throughout all glands removed at operation, and used this observation as an argument against long-term therapy. As he advises operation as soon as thyreotoxicosis is under control, there has not been time for the hyperplasia to recede, and under similar conditions his findings have been confirmed. However, in a number of cases in which operation was performed after long-term therapy because the gland had not receded fully, it has not been possible to demonstrate any hyperplasia; but

TABLE I.

Class.	Numbers.			Results.			
	Male.	Female.	Total.	Excellent.	Good.	Poor.	Operation.
I. Patients aged under 25 years ..	0	31	31	25	1	0	5
II. Patients aged 25 to 45 years ..	5	88	93	60	12	1[1]	19[4]
III. Patients aged over 45 years ..	7	35	42	32	9	0	1
IV. Toxic adenomata	1	15	16	1[2]	8	0	7
V. Recurrent toxicity after operation or X-ray therapy	3	15	18	10	6	2[3]	0
Totals	16	184	200	128	37	3	32

[1] A chronic alcoholic.
[2] One with agranulocytosis (operated on), one with leucopenia (referred for deep X-ray therapy).
[3] Gland receded completely, so it must have been hyperplastic and not adenomatous.
[4] Two operated on because of febrile reactions.

acini were full of colloid and typical of a resting stage in the thyreoid gland. The fact that in 128 cases (64%) there was complete restoration to normal, as regards both symptoms and the size of the thyreoid, shows that regression of the hyperplasia can and does occur. However, this does not always happen, so now it is recommended that all patients with great gland enlargement of more than four months' duration prior to initiation of treatment, or those whose glands do not recede after six months' therapy, should be advised to undergo operation because of the probability of a certain amount of residual hyperplasia.

In assessing the degree of recession of the thyreoid, due allowance is to be made for any enlargement which may occur during the second or third month of treatment owing to uncontrolled thyreotrophic hormone from the pituitary. If this does occur, the dosage of thio compound should be reduced and some *Thyroideum Siccum* given, as it is rapidly absorbed, exerts a balancing effect on the pituitary and lessens the amount of thyreotrophic hormone which is responsible for the gland hyperplasia. It takes some four to six months for normal hormonal balance of the pituitary to take place, and as it is directly affected by stimuli from the hypothalamus and basal ganglia, the necessity for long-continued sedation is obvious. The action of the thio drug is to prevent synthesis of thyroxine in the thyreoid gland; but it does not reduce the thyreotrophic hormone—a fact that seems to be frequently overlooked by many clinicians.

Selection of Cases.

It is important to make an accurate differential diagnosis as to whether the thyreotoxicosis is primary or secondary when the patient is first examined, as only the patients with primary hyperplastic toxic goitre are suitable for long-term therapy, and control of thyreotoxicosis has been obtained in 98% of cases. Those who have had prominent eyes and large goitre for more than six months should be advised that surgery will eventually be necessary to effect a permanent cure, and that they are unsuitable for long-term therapy.

All patients with secondary types of thyreotoxicosis, whether superimposed on an old colloid goitre or on an adenomatous (nodular) goitre, should be informed that operation will be necessary after a short-term period of treatment, provided they are otherwise fit for surgery. Even though this means a minimal period of six to eight weeks' pre-operative treatment it is all to the good, as it allows rehabilitation of the central nervous system, the sympathetic and the body tissues generally. Two weeks' pre-operative iodine therapy is advisable to "firm up" the thyreoid and diminish its vascularity; this iodine can be given coincidently with the anti-thyreoid drug, but preferably alone for the second week. Close on 500 patients, mainly with toxic adenomatous goitre, have now been subjected to operation after short-term therapy, without any mortality and with remarkable freedom from either toxic or post-operative reactions, so that nursing is much easier and the total length of stay in hospital averages only eight or nine days, including the thirty-six hours considered advisable prior to operation.

Choice of Anti-Thyreoid Drug.

In the United States of America the choice fell on propyl thiouracil after thiourea and thiouracil. Probably E. B. Astwood's experimental work on the toxicity of various thio compounds influenced this choice, as the propyl derivative was stated to be much less toxic and ten times more potent in its anti-thyreoid action than thiouracil. However, it was not long before it was found necessary to increase dosage in order to obtain control of thyreotoxicosis, and with this increase came the usual toxic effects reported with thiouracil, including many cases of agranulocytosis.

Methyl thiouracil was procurable in Australia prior to the propyl derivative, and a number of patients were placed under treatment with it. When propyl thiouracil became available 15 patients were given a full course; but the clinical effects were so belated as compared with methyl thiouracil that it was abandoned, except for the occasional case in which some toxic reaction to methyl thiouracil occurred, this stage being safely passed with the use of the propyl compound.

David Lehr (1948) remarks:

> It has been established that many patients sensitized to thiouracil can be continued on therapy with propyl thiouracil or methyl thiouracil without showing ill effects. These observations suggest the possibility of lowering the incidence of dermatitis, fever and other toxic reactions occurring under therapy with full doses of any one compound of the thiouracil series by using appropriate combinations of several homologues in partial dosages. Generally speaking, it should be feasible to diminish the incidence of certain untoward reactions from many drugs by employing partial amounts of therapeutically equivalent drugs of different molecular structure in combination instead of the full dosage of any one compound.

In accordance with this suggestion a combination of methyl and propyl thiouracil is being used for the long-term treatment of 30 patients with acute thyreotoxicosis. It is too early as yet to evaluate the final results, but it can be stated that the clinical results have been most satisfactory with almost entire freedom from any reactions.

Recent experimental work points to methyl thiouracil as a better thio derivative for clinical use than propyl thiouracil. D. A. McGinty and his co-workers (1948) state that the concentration of methyl thiouracil in the blood plasma reaches a peak one and a half hours after its administration and has a slow decline. Thiouracil concentration also reaches its peak at one and a half hours but has a slower decline; but propyl thiouracil concentration takes three and a quarter hours to reach its peak and has a rapid decline. The peak concentration of

methyl thiouracil is higher than those of the other two, which are about the same. McGinty *et alii* also state that 40% of thiouracil and methyl thiouracil is excreted in the urine in twenty-four hours, but only 10% of propyl thiouracil; this indicates that the last-named compound is partially conjugated on absorption, and thus accounts for its slower action.

There is also the work of M. M. Stanley and E. B. Astwood (1947) on the uptake of radioactive iodine by the thyreoid gland and the influence on it of certain thio compounds, in which they take the thiouracil effect as a standard. Methyl thiouracil is twice as effective as thiouracil, whereas propyl thiouracil is only three-quarters as effective. Reports are now being published from several clinics in the United States of America as to the efficiency and low toxicity of methyl thiouracil, and it has been used almost exclusively in Scandinavian countries as well as by several workers in England. George Crile, junior (1949), in his recently published book, refers to its action as being more prompt and more complete than that of propyl thiouracil, and in a series of 70 cases at the Cleveland Clinic studied by E. Perry McCullagh, the only toxic reaction observed was mild dermatitis in one case.

On the whole, then, the balance lies in favour of methyl thiouracil as the thio compound of choice in the treatment of thyreotoxicosis.

Method of Treatment.

To secure the best results in the treatment of thyreotoxicosis, it must be realized that this is a composite ailment and not one involving only the thyreoid gland. The abnormal activity of the thyreoid causing increased production of thyroxine and raised metabolic rate in all tissues is governed by the thyreotrophic hormone of the pituitary. This in turn is dependent on the stimuli coming through the hypothalamus and basal ganglia, so that it is necessary to inquire into and correct as far as possible all noxious psychological stimuli, such as domestic worries, overwork, burdensome responsibilities, insomnia *et cetera*; all these are also factors in an associated sympathetic imbalance and neuro-circulatory asthenia (anxiety neurosis *et cetera*), which plays such a big part in the subjective phenomena of thyreotoxicosis. So long as this aspect is neglected there will be an uncontrolled excessive output of thyreotrophic hormone, and its control demands sympathetic consideration and reassurance on the part of the doctor as well as adequate and appropriate sedation, which can be reduced as improvement takes place, but is necessary until the normal pituitary-thyreoid balance is restored—a process which takes six or more months.

As part of adjuvant treatment the lowered glycogen balance in liver and muscle is to be restored to normal, as also the lowered protein and vitamin balance, especially the vitamin *B* group on which nerve tone depends.

Finally we come to the thyreoid gland itself and the control of its thyroxine production, the reduction of the hyperplasia which has been induced and the prevention as far as possible of fibrosis in the gland. Iodine seems to be a factor in the production of fibrosis in all areas of the thyreoid gland—intralobular and perilobular and even in the fibrous gland capsule; this is evidenced by the iodine thyreoiditis that is so easily induced by even moderate doses over a period of a few months, leading to a hard, adherent gland and making its surgical removal difficult.

It is this effect of iodine—slowing the response to thio compounds—which has been commented on by many writers. Those who do advise the concomitant use of iodine and thio preparations give only very small doses, seldom above 30 milligrammes *per diem* (the equivalent of four drops of Lugol's solution); yet even then a close analysis of their results shows they are vastly inferior to the non-iodine methods. An example is a series of 89 cases reported by T. S. Danowski and his co-workers in February, 1948; after six months' treatment in 20% the basal metabolic rate was +20% or more, although the general symptoms had been relieved.

The initial dosage of methyl thiouracil in the very early mild condition in young people is 100 milligrammes twice a day, but in the average established case it is given every eight hours. The reason for this small dosage is that the concentration of the drug in the blood plasma on full dosage rarely exceeds six milligrammes per 100 millilitres. Some 10% of the drug is destroyed before ingestion and some 40% is excreted unchanged in the urine, so that with a dose of 300 milligrammes *per diem* about 150 milligrammes are retained, and this gives approximately three milligrammes per 100 millilitres.

This concentration allows the tissues generally to become accustomed to the drug and seldom induces any toxic reaction, so that after seven to ten days the full dose of 200 milligrammes can be given with some confidence that if any reaction occurs it will be mild.

This dosage is carried on until the basal metabolic rate falls to zero or close to it, and coincidently the pulse rate falls to normal, tremor disappears as do the "starey" eyes, weight increases and the patient feels well. Once this "adequate response" occurs the dose should be reduced to 100 milligrammes every eight hours. In order to try to hasten this response in some of the early cases the dosage was increased to 300 milligrammes every eight hours, but it was found that toxic effects were more likely to occur and that there was no actual benefit to be obtained, so that it is now advised never to exceed a dosage of 200 milligrammes every eight hours. If auricular fibrillation is present, some small doses of "Digoxin" may be given until normal rhythm returns; but in most cases as soon as thyroxine production is reduced there is no need for "Digoxin". In no case has it been found necessary to use quinidine, although one man had an eighteen months' history of auricular fibrillation, the causal factor of which had been overlooked.

After some four weeks the dosage can be reduced to 100 milligrammes every twelve hours, provided the metabolism is being held at about the zero level, as this seems to be the secret of success in long term therapy.

If there is any pronounced enlargement of the thyreoid or any prominence of the eyes the administration of *Thyroideum Siccum* can be commenced once the "adequate response" has been achieved; a quarter of a grain may be given twice a day, and if there is no reaction as evidenced by increased pulse or return of tremor it can be increased to half a grain twice a day.

By the end of the third month of treatment, provided clinical improvement has been maintained, the maintenance dosage of 50 milligrammes every twelve hours can be instituted and carried on for a minimum of four months with the adjuvant therapy.

The regime as outlined is for the average case; but it is unwise to rely on any fixed scale of treatment, for every patient should be regarded as an individual problem and treatment may need to be varied in some respects. Any shorter period of therapy is not safe, as relapse may occur unless the pituitary balance has regained a stable normal level. Longer periods of treatment are often required, but seldom more than fifteen or eighteen months. The patient should be told to report if any of the old symptoms recur, but in any case at nine months after cessation of treatment to have a final check, as recurrence should then be evident if it is going to take place.

Commentary.

R. H. Williams of Seattle (1949), in an excellent article, discusses the many methods of treatment he has tried or that have been advised for thyreotoxicosis, and concludes after a review of 441 cases over five years that only three methods have been proved as worth while—namely, operation, and the administration of anti-thyreoid drugs or of radioactive iodine. He stresses the importance of selection of cases, and states that operation is the best treatment for nodular (adenomatous) goitre or when rapidity in finalizing treatment is the main objective. He tabulates various factors and desiderata, placing each of the three methods advocated in order of merit for each point under consideration, and as a result places the use of the thio compounds first, with radioactive iodine a close second and surgery some distance away as third. With regard to surgery he mentions the following complications that may occur but are unlikely or absent with the other

methods: persistent toxicity (7·5%), myxœdema (2%), tetany (1%), vocal cord paralysis (1%), and death (1%).

That all reports are not so favourable is evidenced by one from Paul Starr and co-workers from South California (1949), on 40 patients treated with propyl thiouracil. These authors state that the drug will not induce permanent remission in toxic goitre even with prolonged usage up to fifteen months and in doses of 150 to 600 milligrammes daily; they also state that it is frequently ineffective and may produce granulopenia in 15% of cases.

Sir Carrick Robertson of New Zealand (1948), reporting on 45 cases, states that only 35% of patients show recovery after eighteen months' treatment with thiouracil.

E. P. McCullagh and W. T. Sirridge, of Cleveland Clinic, reporting in December, 1948, on 100 cases, state that 41 patients were completely controlled, but 30 were still under treatment, of whom 15 were responding well. They changed over from propyl to methyl thiouracil in 13 cases and conclude that the methyl compound is somewhat more effective than propyl thiouracil. They give 10 to 20 milligrammes of iodine per day as well.

Sir Heneage Ogilvie (1949), in discussing thyreotoxicosis as a stress disease, states that "the results claimed for thiouracil show few grounds for satisfaction or even complacency". The figures he quotes are unusually bad and include a mortality rate of 2%, intolerance to the drug (10%), agranulocytosis (2%) and cure in only 3%. He holds "that thiouracil has had a fair trial and has failed miserably, that it has no useful place in reputable therapy and that its use should be prohibited except in cases of thyrotoxicosis where operation has been definitely abandoned or where it must be postponed".

If the figures he quotes are an average sample of the experience of British clinicians using thio compounds, it is obvious that their technique is grossly at fault and should be reviewed, especially in view of the opinion of such an authority as R. H. Williams as quoted above.

In contradistinction to these views, D. Verel, of the University of Aberdeen (1949), reports 62 cases with only three unsatisfactory results, and he has now given up thiouracil for methyl thiouracil. In 48 of his cases regression of thyreoid enlargement took place. He has eight patients who have had no treatment for twenty-one to thirty-nine months without relapse. In all 33 patients have concluded treatment for three months or more with three relapses, but of these no details are given. There were 10 patients who had auricular fibrillation, and in all normal rhythm was restored once the thyreotoxicosis was under control. Granulopenia occurred in eight cases, but Verel does not regard it as necessarily a prelude to agranulocytosis. Pregnancy occurred in three cases, and the patients were carried through safely with iodine in the last two months.

The Leucocytes.

It is as well to have a leucocyte count made when treatment is commenced and again at three and six weeks. It is not necessary to have the regular and frequent leucocyte counts made that were advised in earlier years when thio therapy was in its experimental stage. Leucopenia is by no means uncommon, but should cause no concern unless the count drops below 4000 per cubic millimetre with 40% of neutrophile cells. If this happens in the third or sixth week of treatment liver extract is ordered, and if the count does not improve within a week or two pyridoxine generally helps.

Agranulocytosis, if it is going to develop, comes like a bolt from the blue, and patients should be warned repeatedly to stop treatment immediately and report forthwith if they develop any fever or sore throat, also that they must not take sulphonamide compounds during treatment. The administration of penicillin in large doses, with possibly repeated small blood transfusions, is the best form of treatment, and very few fatal cases have been reported in the last three years.

Conclusions.

1. Methyl thiouracil on both experimental and clinical grounds is so far the most favourable thio compound for the control of thyreotoxicosis, and in suitable cases will effect a cure with complete return to normal in 64% of patients suffering from acute primary hyperplastic toxic goitre, but in 98% of cases control of thyreotoxicosis is obtainable.

2. Patients with toxic adenomatous goitre or with large hyperplastic goitre evident for more than four months are unsuitable for long-term therapy with methyl thiouracil and should be advised to submit to short-term treatment as a preparation for operation, provided they are otherwise suitable subjects for surgery.

3. The earlier patients come for treatment, the quicker and better are the final results, irrespective of age. Reports that the younger the patient, the better is the result, have not been confirmed in this series.

4. Patients who have had deep X-ray therapy or operation for acute primary toxic goitre and have had a recurrence of their thyreotoxicosis are eminently suitable for treatment with methyl thiouracil.

5. Patients with toxic adenomatous or other secondary types of toxic goitre, if they are unsuited for or have refused operation, can be satisfactorily controlled by long-term therapy.

6. Carefully planned and continuous adjuvant therapy with sedation, balanced diet, added vitamins and removal of noxious psychological stimuli is necessary as part of the treatment of thyreotoxicosis.

7. Auricular fibrillation associated with thyreotoxicosis reverts to a normal rhythm once the thyreotoxicosis is under control.

8. Initial leucocyte counts are advisable, and it is wise to repeat them at about the third and sixth weeks of treatment. Frequent counts do not give any reliable indication as to the onset of agranulocytosis, but leucopenia requires treatment.

9. Each patient requires a carefully planned treatment period of at least three months and a maintenance period of about four to six months, during which the basal metabolic rate should be kept at or under zero.

10. When there are enlargement of the thyreoid gland and "starey" or prominent eyes, small doses of *Thyroideum Siccum* should be given as soon as an adequate response to treatment dosage has been obtained.

11. There appear to be no grounds for the oft-repeated statement that the basal metabolic rate falls 1% per day of treatment with thio compounds.

12. There is no place for a standardized method of treatment in thyreotoxicosis, and each patient should be regarded and treated as an individual problem. The main factors influencing treatment with thio compounds are the length of the history, the general physical and mental condition of the patient and the type of goitre present —that is, whether primary or secondary thyreotoxicosis exists.

References.

Crile, G., junior (1949), "Practical Aspects of Thyroid Disease", page 96.

Danowski, T. S., *et alii* (1948), "Results of Prolonged Medical Treatment of Hyperthyroidism with Thiourea", *The American Journal of the Medical Sciences*, February, page 123.

Lahey, F. H. (1947), "Hyperthyroidism", The Cecil Joll Lecture, *Annals of the Royal College of Surgeons*, December, page 277.

Lehr, D. (1948), "Lowered Incidence of Sensitization through the Use of Sulphonamide Combinations", *British Medical Journal*, Volume II, page 543.

McCullagh, E. P., and Sirridge, W. T. (1948), "Methyl Thiouracil in the Treatment of Hyperthyroidism", *The Journal of Clinical Endocrinology*, December, page 1051.

McGinty, D. A., *et alii* (1948), "Excretion Studies on Thiouracil and its Derivatives in Man", *The Journal of Clinical Endocrinology*, December, page 1043.

Ogilvie, H. (1949), "In Praise of Idleness", *British Medical Journal*, Volume I, page 645.

Poate, H. R. G. (1947), "Control of Thyreotoxicosis by Methyl Thiouracil", THE MEDICAL JOURNAL OF AUSTRALIA, Volume II, page 93; (1948) "Long-term Therapy in Thyreotoxicosis with Methyl Thiouracil", *ibidem*, Volume II, page 677.

Robertson, C. (1948), "Treatment of Thyreotoxicosis", *The Lancet*, Volume II, page 675.

Stanley, M. M., and Astwood, E. B. (1947), "Determination of the Relative Activities of Anti-Thyroid Compound in Man Using Radio-Active Iodine", *Endocrinology*, Volume XLI, page 66.

Starr, P., *et alii* (1949), "Therapeutic Studies in Hyperthyroidism with Propyl Thiouracil", *The Journal of Clinical Endocrinology*, Volume IX, page 330.

Verel, D. (1949), "Thiouracil in Thyrotoxicosis", *British Medical Journal*, Volume I, page 892.

Williams, R. H. (1949), "Selection of Therapy for Individual Patients with Thyrotoxicosis", *The Journal of the American Medical Association*, Volume CXXXIX, page 1064.

PSYCHIATRIC ASPECTS OF DYSPEPSIA IN SOLDIERS.[1]

By D. W. H. ARNOTT, M.B., Ch.M., D.P., F.R.A.C.P.,
Sydney.

THE following observations on dyspepsia in soldiers were made on patients referred for consultation to the psychiatric department of the Repatriation General Hospital, Concord, during the period from October, 1944, to October, 1945. During this period, about 1300 subjects were referred for consultation from the medical and surgical wards; I have been through 418 unselected cases of this series for the purposes of this paper. In 36 or 8·5% of these 418 cases stomach symptoms were predominant, and the patients had been admitted to hospital on this account; they were cases in which a diagnosis of dyspepsia could be made. The patients had been investigated by competent physicians, and most of them had had exhaustive pathological and radiological investigations with negative results. After a variable period of observation and investigation in the medical wards, the psychiatric nature of their illness had been recognised or suspected and they were then referred to the psychiatrist. On the whole these cases were recognized within a reasonable time; but occasionally patients languished for long periods in hospitals and convalescent camps—one patient for fifteen months—before the true nature of their complaint was suspected.

Towards the end of the war neurosis complicating or simulating physical illness was more quickly recognized, and the first survey generally ended with the following sort of chant: "F.B.C., Ba Meal, F.T.M., Graham's test, examination of stools and see psychiatrist." Whether the psychiatrist was given this peculiar position because of possible preoccupation with anal eroticism, or whether it was just to keep him in his place, I know not.

Owing to pressure of numbers, many of these consultations were rapid affairs, taking no more than fifteen to twenty minutes—rough psychiatry, it is admitted, dealing too much perhaps with superficial motives, with overt anxiety and mental upset and with the relief of patent environmental stresses, and too little with defects of character and deeper unconscious conflicts. It was helped by the presence of a full-time secretary who took shorthand notes of each case and who remained in the room during the whole of the taking of the history, unless the patient desired otherwise, or unless it was thought that the patient was withholding information on her account. Generally, however, once the floodgates of the mind were opened, it was difficult to control and limit what poured forth. In this way it was possible to make a rapid survey of a patient's life, of the influences which determined his character, of how he reacted to army life, of the birth of his illness and of its handling. It was possible to sort out those patients who needed further investigation and to deal summarily with the remainder, in a reasonably satisfactory way.

In the 418 consultations taken for purposes of this paper, Table I shows the diagnoses.

As was stated before, in only 36 or 8·5% of these 418 consultations could a diagnosis of dyspepsia be made. These cases presented the following dyspeptic symptoms in the following order of frequency: nausea; vomiting; poor appetite; loss of weight; vomiting under stress; "trembling" in the stomach; belching; a throbbing, sinking feeling in the stomach; evacuation of the bowels after eating or if upset; fluttering feelings in the abdomen; a feeling as though the stomach was turning over all the time—that it was tying itself in a knot—as if it were "working all the time"; a feeling of pressure in the epigastrium; throbbing pains in the epigastrium; "pounding or beating of the stomach under any stress"; flatulence; sour stomach and heartburn; burning and soreness round the navel; vague abdominal pains under stress. All 36 patients exhibited general symptoms of psychoneurosis, and all cases came into that type of psychoneurosis which can be termed anxiety hysteria.

The general symptoms of psychoneurosis which were present in these cases were as follows, in order of frequency: the presence of tremulousness; mental depression; headaches; irritability; difficulty in concentrating; fatigability; "nervous" or worried and upset feeling; fearfulness; restless and unsettled feeling; sleeplessness; feeling of being unable to mix with people; feeling of dizziness; loss of confidence; emotionalism; feeling of being easily flustered; "blackouts".

TABLE I.

Disorders.	Number of Cases.	Approximate Percentage.
Psychoses	8	2·0
Obsessional states	2	0·5
Depressive states	37	9·0
Psychoneuroses (including anxiety states, 58; anxiety hysteria, 88; anxiety depressions, 10; neurasthenia, 7)	163	39·0
Conversion hysteria	43	10·0
Constitutional temperamental instability, 53; psychopathic personality, 17	70	17·0
Worried states of mind and emotionalism (short of psychoneurosis)	24	6·0
Mental deficiency	8	2·0
Epilepsy	4	1·0
Disabilities after head injuries, 3; headaches, 3; physical debility, 3	9	2·0
Enuresis, 1; allergy, 1	2	0·5
No significant psychiatric disability	48	11·0
Total	418	100·0

Distinctive Nature of Symptoms.

Is there anything about the symptoms of these cases of dyspepsia associated with psychoneurosis which distinguishes them from those of dyspepsia due to physical causes? They seem to have many symptoms in common, such as nausea, loss of appetite, flatulence, heartburn and vomiting; but such symptoms as "trembling in the stomach", "fluttering feelings in the stomach", the sensation that the stomach is turning over or that it pounds or beats under any stress, point to a psychogenic origin. The presence of other nervous symptoms and the history of the patient and of his illness, together with negative pathological findings, generally make the diagnosis of psychoneurosis clear.

Causative Factors.

Table II gives the significant causes of illness in these cases. In some cases more than one cause was operating.

It was difficult in many cases to assess accurately where the bias of cause pointed, as there seemed to be two or three or more major factors. However, in this group of 36 cases of dyspepsia it was considered that in 33 psychogenic factors were dominant.

Of the total 36 patients, 18 had had some active service, but only seven had had any battle stress. It is thus obvious that battle stress played only a minor part in the drama.

In keeping with most opinion, the major cause seemed to be the presence of constitutional weakness, inferiority, inadequacy or instability or whatever you like to call it. Whether this potentiality is wholly inborn or due to the mismanagement of inborn hypersensitivity it will always be difficult to decide.

[1] Read at a meeting of the Australasian Association of Psychiatrists held in October, 1948, at Melbourne.

Whatever the cause, by the time adulthood is reached men's capacities and strength for resisting physical and mental strain are widely variable. Military service to some was a haven of rest from responsibilities and the pressure of modern life; but to many it was a way of life which was contrary to all their way of living and feeling—an uprooting from a soft, protective, mothering medium and an exposure to the cold, raw elements of Nature and of stark living. Was it any wonder that many sensitive souls recoiled from such a shrivelling blast and reacted with the only defence available—illness?

Classification of Cases.

The cases appear to fall into three groups: (i) those persons who have an inborn or an early developed undue irritability and sensitivity of the nervous system with emotional instability, in whom a slight upset of mind, a mild situational stress, causes an emotional reaction or disintegration which is out of proportion to the original stimulus, and which causes, or expresses itself in, gastric dysfunction; (ii) those persons of average stability who,

TABLE II.

Causative Factor.	Occurrence.
Constitutional temperamental instability; inadequate personality; hypersensitivity	24 times.
Home worries	15 times.
Inability to adjust self to army conditions of life	11 times.
Long active service, war weariness and loss of morale	8 times.
Resentment of specific treatment in the army or of service generally	8 times.
Probable physical illness or debility due to tropical conditions or malaria	7 times.
Separation from home	3 times.
Frank fear of active service	Once.

worn down by physical illness or the continued emotional stress of action or of personal worry, eventually develop the above state of undue nervous irritability; (iii) those persons in whom resentment and rebellion, or continued frustration, annoyance and disgust and continued fear develop an inner emotional tension which is expressed in gastric dysfunction. Illustrative of these three groups are the following cases.

Group I.

A private soldier, aged thirty years, whose main symptoms were loss of weight (60 pounds in the previous eight months), a feeling of pressure in the epigastrium and poor appetite, with associated nervous symptoms of mental depression, shakiness and headaches, gave a history of habit spasms as a child, and of a nervous breakdown at the age of eighteen years which lasted two years. His symptoms came on after he had been sent to Lithgow, away from his wife, on whom he was completely dependent, and it was this temporary separation from his wife that precipitated his symptoms. He was in and out of hospitals for six months before the emotional cause of his symptoms was discovered.

Group II.

A private soldier, aged thirty-four years, complained that his stomach was turning over all the time, that he had nausea, and that when he was excited his bowels opened. He also had general symptoms of loss of confidence, depression and emotionalism. He had had a long active service period in the Middle East and in New Guinea, with severe battle stress. He gave a childhood history of enuresis, frequent gastric upsets and excessive shyness, and he used to faint frequently; but he achieved reasonable stability as an adult, which was broken down only after prolonged physical and mental stress, and after he had "panicked" while being dive-bombed at Lae. War weariness and worry over his pregnant wife were sufficient to keep his symptoms alive and render him incapable of further useful service.

Group III.

A warrant officer, aged thirty-one years, who saw service in the Middle East and New Guinea, remained well and was a good soldier until his mother and his child died in February, 1943. He was refused compassionate leave by his commanding officer, in spite of his father's making representation to the Minister for the Army. From then on he developed symptoms largely of a dyspeptic nature, of "dull aching abdominal pains", and "starving feelings" half an hour after meals, with nausea and vomiting at times. He also complained of poor concentration, irritability and tiredness. He had harboured bitter resentment about his commanding officer who had denied his compassionate leave when his mother and child had died, eighteen months prior to the patient's being presented for examination. No doubt this continued resentment was the main factor in the production of his nervous illness, which was largely expressed in gastric symptoms. In this case a fractional test meal examination revealed some hyperacidity, but a barium meal revealed no organic lesion.

Other Cases.

The following are a few further interesting cases.

A young soldier developed upper abdominal pains and vomiting due to resentment against his wife, who, he said, had tricked him into marrying her, when all the time she was "carrying on" with another man.

An unstable person, aged thirty-four years, developed throbbing, sinking feelings in the abdomen, with loss of appetite and vomiting and severe loss of weight—a reaction to his being separated from his wife, who, he said, was very passionate, and was continually asking him to leave the army.

A lieutenant, aged twenty-five years, had been in the permanent army prior to the war, and had been kept on instructional duties until 1944. He was then sent as a reinforcement officer to a commando unit in New Guinea and served with them for four months. He says that he was not accepted by them, and this rejection *plus* some home worries precipitated a neurosis with symptoms of abdominal discomfort and diarrhœa.

Management and Disposal.

In dealing with these cases, it was thought that the peculiar and severe situational stresses which the army imposed on men were potent factors in their illness, and thus the majority were reclassified or discharged to civilian life. Although the gainful value of illness was recognized, this had to be weighed against continued army invalidism and uselessness as soldiers. It was found in most cases that frank confession aided by correct questioning brought to light the significant influences which were disorganizing the patient's personality. Although deep psychological analysis with its uprooting of repressed material from the unconscious mind is necessary in some cases, repression also has a protective function, and many things are better left buried deep in the human mind. Most people have to have simple ideals of conduct for happy, healthy living, and likewise treatment to be successful has, I think, to be a simple sort of thing. More seems to be achieved with a friendly smile of encouragement or a word of hope at the right time than with an involved, deep and sometimes confusing psychological investigation.

The mind can be likened to a reservoir, which in good mental health contains a good reserve or head of energy; this not only provides a good potential (of energy), but also covers well the jagged rocks and rotted stumps that lie on the bottom. Energy is always trickling in, and it is only when the output exceeds the inflow that depletion takes place. Exhaustion of this mental quantum is produced not so much by physical activity as by long-continued emotional excitement—especially those negative types of feelings engendered by continued fear, hate, envy, frustration and resentment, self-consciousness and sorrow. These continuing negative emotions seem to be able to make large cracks in the retaining wall of the mind, through which mental energy pours away. When the quantum of mental health sinks below a certain level, mental unease begins to creep into consciousness and to give its warning of impending danger. At a further stage this unease becomes unmanageable and irreversible as regards the patient's conscious control, and at this stage unease becomes disease, and either the mind disintegrates or Nature deals with the situation in some drastic mind-saving way. Management of mental illness in general consists in the following measures:

1. Unnecessary pressure that comes from within the mind should be relieved by the removal of fears, of guilt and of self-depreciation, and by the adjusting of attitudes

to unchangeable situations and to the life situation in general.

2. Environmental stresses which are beyond the present capacity of the patient should be eased.

3. If the mental unease has proceeded to disease, a variable period of treatment should be given aimed at reducing all mental activity by sedation, insulin or electro-convulsive therapy, so that the outflow of mental energy is stopped and a reservoir of energy is again accumulated.

I have a firm belief in the strength and resilience of the human mind to recover from severe and even catastrophic upset if this is early recognized and adequately treated.

Disposal.

The disposal of the 36 patients mentioned was as follows: 18 were "boarded" out of the army, five were reclassified to "B" class, nine were sent to another military hospital for further psychiatric investigation and treatment, and four were returned to duty.

As will be seen, few of these patients were returned to duty; but at the period at which they were examined the war was ending, so that the need to "patch up crocks" for active service had gone and future rehabilitation had become the dominant theme.

Summary.

1. In a series of 418 patients referred for psychiatric consultation, 36 or 8·5% had dyspeptic symptoms.

2. They were all suffering from anxiety hysteria and none had a psychotic association.

3. Psychogenic causative factors were predominant.

4. The group of patients examined were specially selected, in that they represented the excessively unstable and mentally upset individuals.

5. These cases of dyspepsia occurred in men who, either basically inferior or weakened by continued stress, were temporarily disorganized by the peculiarly difficult situational stresses which army life had imposed upon them.

6. They were essentially cases of neurosis, in which the unresolved emotional tension had spilled forth through the gastric and intestinal systems.

Conclusion.

I have tried to give some of my own reactions to these patients, who presented states of mental agitation causing gastric symptoms of all kinds and producing varying incapacities, but all bad enough to require the patient's admission to hospital or to constitute a threat of continued invalidism. In most cases it was solved only by a drastic environmental readjustment, such as discharge from the army allowed. My most lasting memory is of a long line of frustrated, weeping, desperate or broken men, for whom army life had proved too heavy a burden, or in whose lives everything of worth or held dear had been smashed. I can only hope that time and Nature have healed their mental wounds.

NEUROSURGICAL APPLICATIONS OF ELECTRO-ENCEPHALOGRAPHY.[1]

By GILBERT PHILLIPS, M.S., F.R.A.C.S.,
Sydney.

IN expressing appreciation of this opportunity to address the Australasian Association of Psychiatrists on the neurosurgical applications of electroencephalography, may I ask you to exercise your indulgence and allow me to avoid presenting a category of the refinements of electrographic interpretation in particular lesions with a statistical assay of the merits of this technique, and instead to discuss, rather informally, the contemporary neurosurgical scene in relation to electroencephalography and the principles involved in the use of this diagnostic method by neurosurgeons.

[1] Part of a symposium on electroencephalography, held at a meeting of the Australasian Association of Psychiatrists, Sydney, May 24, 1949.

One may observe in the first place that neurosurgical interest in a complicated diagnostic method such as *electroencephalography*, which is difficult both in application and in interpretation, is conditioned primarily by the former training of the particular neurosurgeon who is responsible for the management of the case. Broadly speaking, neurosurgeons fall into two classes, which may well be represented by the English and American schools respectively. Although the early recording techniques were developed by E. D. Adrian of Cambridge following his interest in Hans Berger's first reported encephalogram, and although the first corticogram was made by B. H. C. Matthews in Cairns's clinic at the London Hospital in 1932, this procedure was not at once adopted by the British neurosurgeons as an ancillary diagnostic method, and its extensive development in this respect in the late 1930's was due mainly to the interest and activity of the American physiologists and neurosurgeons. As a result we find on the one hand a group of surgeons who have little personal experience of the method or of the interpretation of records and do not associate themselves personally with the taking of the record. In the second group, however, the electroencephalograph is regarded as an additional surgical tool, and is not infrequently set up in the operating theatre and used by the surgeon himself in the localization of surface lesions and the delimitation of tumours within the hemisphere. For these reasons one finds at the present time that electroencephalography is applied either in large general hospitals with a wide range of clinical material of all types—as for instance at the Royal Prince Alfred Hospital, Sydney—or alternatively that the method is used in specialized hospitals—as for instance the Military Hospital for Head Injuries, Oxford, during the recent war—or in neurological centres which have developed a particular interest in one aspect of surgery of the nervous system. As an example of the last-mentioned, one may cite the studies which have been made into epilepsy under the direction of Wilder Penfield at the Montreal Neurological Institute.

Electroencephalography commenced in Sydney in 1939 after I had arranged with Professor H. R. Dew to place an order for the first instrument to be brought to Australia. On B. H. C. Matthews's recommendation we obtained a three-channel instrument from the Clifton Instrument Company, which was installed in the New Medical School at the University of Sydney and used for some years during the war before being transferred to Royal Prince Alfred Hospital for clinical application. This machine, now obsolete, has been superseded by the Offner instrument in current use, which in turn is to be replaced this year with the American Grass machine. Our electroencephalograph department is housed in the same building as the neurosurgical unit and is therefore available for the survey of urgent cases and the routine study of other patients during the preliminary period of diagnosis.

In the first place it is a reasonable premise that this new technique may be regarded as a further ancillary method to other diagnostic procedures at present available. In diagnosis, therefore, it must take its place in competition with such other investigations as air studies and arteriography. One may inquire of electroencephalography: When may it be used? What answers can it supply? What are its disadvantages in the investigation of a neurosurgical case? The first question requires the classification of neurosurgical material into several groups, as follows: (i) the analysis of electrical activity in the brain during the investigation of an intracranial lesion; (ii) the follow-up investigation of post-operative and post-traumatic cases; (iii) the localization of focal cerebral lesions in the operating theatre by surface and sub-surface recordings.

It is now general practice, adopted as well at the Royal Prince Alfred Hospital, to make an electroencephalographic examination of all neurosurgical patients suspected of having a focal supratentorial lesion. The procedure itself requires a cooperative patient, as excessive movement interferes with recording. Examination may be made when a patient is in coma, and there is no contra-indication to the taking of an electroencephalogram in these cases when the instrument is used close to the

neurosurgical wards. The examination is not carried out until full neurological ward tests have been concluded and is usually performed before arteriographic or air studies. It is the local sign in the electroencephalographic record which is of first interest to the neurosurgeon, and diffuse changes of altered wave form do not at the present time justify any conclusion as to the site or nature of the lesion. One seeks local α wave suppression, or focal abnormalities in the cortical activity, or phase reversals across a cerebral region as *indicia* of local disease of the brain. In the great majority of cases the nature and situation of the lesion have already been determined with reasonable certainty before electroencephalographic study, as the result of neurological examination, of cerebro-spinal fluid and visual field testing or of plain radiography of the skull, and moreover, in those cases in which these methods have not resulted in localization, even if the electroencephalogram subsequently indicates a focal disturbance, it is not the common practice to proceed with operation before confirmatory arteriographic and/or pneumographic studies are concluded. The reason that electroencephalography has not been more securely established as a localizing technique is a negative one. If the electroencephalogram shows a clear-cut phase reversal over a definite area of the brain, there is no doubt that this implies local disease, but it does not imply either that this is the causal abnormality or that the lesion itself is a surgical one. More significantly, too, there may exist gross intracranial and intracerebral lesions of a surgical nature without any definite focal electroencephalographic abnormality, and this method therefore is unable positively to exclude a space-occupying lesion in the brain or on its surface. It may be stated therefore that electroencephalographic examination is applicable without any serious contraindications to all neurosurgical material awaiting diagnosis, that it should be regarded as a piece of corroborative evidence following full neurological examination, plain radiography and other ward tests, that it is able in many cases of space-occupying lesion to produce positive evidence of the site of the lesion but not of its surgical nature, and that when the electroencephalogram is normal in such a case it does not positively exclude a surgical lesion in the brain.

So much for the position of electroencephalography as a diagnostic procedure. Its usefulness in post-operative and post-traumatic follow-up investigations may perhaps be exemplified best by the methods obtaining at the Military Hospital for Head Injuries, Oxford, during the recent war. Dennis Williams was in charge of the electroencephalographic unit at this hospital, and was, with his team, continuously available at short notice for repeated surveys of these cases. They fell broadly into two groups —open and closed head injuries. Surgical practice in the former group was to perform a complete *débridement* of any missile track with removal of indriven bone fragments, metallic and other foreign bodies, and gentle suction aspiration of the track, in an endeavour to remove completely all cerebral tissue which might subsequently either form a nidus for infection or alternatively lead to an epileptogenic focus. After the operation these patients were examined electroencephalographically, and the adequacy of the operation was estimated by the absence of any focal area of abnormal discharge in relation to the cerebral wound. In the second group a regular electroencephalographic survey was made of all subjects with closed head injuries and the subsiding dysrhythmias were progressively studied. In general terms, it was found that the closed head injury produces a slow-wave dysrhythmia which gradually subsided in the succeeding eight to twelve weeks and was then replaced by the normal α rhythm. In a few cases the slow dysrhythmia was replaced by a high-frequency dysrhythmia, which became permanent and was taken as an indication that the subject was then a potential post-traumatic epileptic, and therefore the conditions of his subsequent management and return to service were appropriately modified.

In the third place one must make reference briefly to the application of electroencephalography in the operating theatre. This has been developed to the highest degree perhaps in the Neurological Institute at Montreal under the guidance and stimulus of Wilder Penfield. In this unit electroencephalography has been widely applied in the localization of focal disease in the brain leading to epilepsy. Methods have been designed to make recordings from the exposed brain in the operating theatre, which permit the excision of cortical scars and other abnormal foci alleged to be responsible for the seizures. Depth electroencephalography is also being used, after shielded electrodes have been passed into the hemisphere, to determine the precise situation and extent of cerebral tumours. However, such methods applied in the operating theatre require a specialized type of recording instrument and a high degree of organization and technical skill on the part of the theatre team and recorder, and it is likely therefore that such methods will remain for a long time in the care of the units which have special interests in this field.

Conclusion.

In conclusion one may say, therefore, that electroencephalography offers a safe, though complicated, additional technique in neurological diagnosis, in which the emphasis rests on the local sign, while negative findings do not necessarily exclude local disease. Beyond this diagnostic level, special surgical services organized to deal primarily with such special aspects as cerebral trauma or epilepsy may find real help in the application of electroencephalography to the localization of lesions in the exposed brain or in the late follow-up investigation of surgical material. However, it is perhaps true to say that at the present time the most significant application of electroencephalography lies in neurophysiological research into the action and interaction of the neural components of the human nervous system.

SOME MODERN TRENDS IN ELECTRO-ENCEPHALOGRAPHY.[1]

By GEOFFREY TRAHAIR,
Sydney.

I HAVE been asked to review briefly some modern trends in electroencephalography. The amount of work being done in electroencephalography is prodigious both in the United Kingdom and more particularly in Canada and in the United States. Recently I had the good fortune to visit some of the leading centres in these countries, and I propose to base my observations on the impressions gathered there as well as on my own experience here over the past four years. Even in a relatively limited field like electroencephalography, the work published is so extensive and is scattered through so many neurological journals (some of which are not available here) that it is virtually impossible to cover it without the aid of a team of multilingual reviewers, so I will confine my remarks to three topics only: (*a*) organization and equipment, (*b*) newer techniques, and (*c*) the future of electroencephalography in this country (where it will meet certain difficulties imposed by local conditions).

Organization and Equipment.

Organization and equipment are related to the history of electroencephalography, which was founded in Germany by Berger (1929) in the late twenties. Little interest was taken in his claims elsewhere until the early thirties, when they were confirmed by Adrian and his co-workers (Adrian and Matthews, 1934; Adrian and Yamagiwa, 1935). At about the same time the work of Berger was investigated by F. A. Gibbs, Hallowell Davis and W. G. Lennox (1935) by the use of an ink-writing electroencephalograph designed by Garceau. In their historic paper these workers reported the paroxysmal characteristics of the electroencephalogram in epilepsy, which included the first description of the wave and spike formation which is essentially "epileptic".

[1] Part of a symposium on electroencephalography held at a meeting of the Australasian Association of Psychiatrists, Sydney, May 24, 1949.

Subsequently Davis continued with more physiological investigations, while Gibbs, Gibbs and Lennox worked with a more clinical orientation. They used a much superior ink-writing instrument designed by A. M. Grass. I mention this because these pioneers set the world standard for clinical electroencephalography, and for a time A. M. Grass held almost a complete monopoly of commercial equipment. This was a good thing as far as workers in electroencephalography were concerned, as for a long time almost any paper in any journal was illustrated with tracings made with Grass equipment and these were directly comparable. Meantime, as Gibbs, Gibbs and Lennox and others extended their work in the United States, there was a curious delay in England that one finds hard to explain adequately. It was perhaps innate conservatism, and possibly the uneasiness in Europe with a new world war approaching, that retarded the general application of electroencephalography, which remained almost the close preserve of the Cambridge neurophysiologists who worked with Adrian. Nevertheless, it was in this period that the next great forward step was made by Walter (1936)—the location of a cerebral tumour through the intact cranium. The rapid development of electroencephalography in the United States was not wholly satisfactory, and in 1944 Gibbs and Lennox expressed some uneasiness at the shortage of first-class equipment. Max, Wiesner and Bullowa (1943) had already published the performance of five different makes of electroencephalographs. None of these were named, but it was significant that only one of the five showed a performance corresponding with the claims of the manufacturer. This unsatisfactory state of affairs was typified by the Garceau instrument, a one-channel machine "for use in the doctor's office". Whatever its performance, a single-channel instrument is worse than useless because it leads to inadequate examination, and all the leading workers in the field are emphatic that multi-channel recording with stable, reliable electroencephalographic equipment and skilled interpretation is the only type of examination worth considering.

In England, the propinquity of centres and general agreement on basic principles enabled the Electroencephalographic Society to be formed under the presidency of Professor E. D. Adrian by a group of fourteen foundation members, including W. A. Cobb, G. D. Dawson, Denis Hill, Grey Walter and Denis Williams (who had had extensive experience in the United States working in collaboration with F. A. and E. L. Gibbs). The foundation of the Electroencephalographic Society was for England a tremendous advance in organization. Nearly all work on electroencephalography published in England is first read at a meeting of the Electroencephalographic Society, discussed and criticized, and emendations are made if the writer feels that they are necessary. Profiting by American warnings, the Electroencephalographic Society drew up criteria for the performance of electroencephalographic equipment (Dawson and Walter, 1945). In addition, recommendations were made for the setting up of electroencephalography centres, criteria of normality and abnormality were laid down and terms used in electroencephalographic practice were defined. A manual of electroencephalography edited by Denis Hill was also compiled. Although completed more than two years ago, it is still in the press.

Other European countries formed electroencephalographic societies, and those already existing in the United States linked together as the American Society of Electroencephalographers. This society has also laid down specifications for performance of equipment which are essentially the same as the European specifications. Recently all electroencephalographic societies joined in founding an international journal—*Electroencephalography and Clinical Neurophysiology*—published from Montreal; the first number appeared in February, 1949.

Turning next to the future of electroencephalography in Australia, we are here beset with two great problems —shortage of equipment and separation of centres which will be maintaining electroencephalography services.

The question of equipment is a serious problem, as the electroencephalograph is a group of low-frequency amplifiers driving an oscillograph—ink-writing for preference. There is nothing inherently difficult about the construction of such equipment except the ink-writer itself. These, fortunately, may be brought separately; but the making of an adequate electroencephalograph cannot be a profitable undertaking for an Australian firm, as the market is limited and any instrument made must undergo a period of several months' actual trials before a pronouncement as to its reliability can be made. A practical difficulty not always appreciated by manufacturers is that low-frequency amplifiers are in practice apt to behave in a most erratic fashion. This is an experience well known to everyone who has used an electroencephalograph or has worked with this type of amplifier; the equipment will for no particular or obvious reason go "haywire" for a few seconds, a few minutes and even longer, and then for no obvious reason recover and function perfectly for weeks. The time is approaching when we in Australia should consider the formation of an electroencephalographic society and work on the standards advised by the European and American societies. Most important, however, is the training of young electroencephalographers, and it is my opinion that if we are to approach the standards set up and maintained by the overseas workers, then it will be necessary to provide funds for training at centres such as the National Hospital, Queen Square, and the Maudsley Hospital or the Burden Neurological Institute. These institutions are well provided with equipment, teaching staff and clinical material. At the Burden Institute at Bristol the accent is on newer experimental electronic techniques. At the others the clinical and neurological problems are more to the fore.

Techniques.

As one might expect, techniques are becoming more and more complex, and at some centres complexity seems to be an end in itself. Berger originally used two electrodes to record the brain rhythms, and when electroencephalography commenced in Sydney in 1941-1942 under the guidance of Dr. G. E. Phillips and Dr. A. K. McIntyre the number was six, corresponding to the frontal, parietal and occipital regions of each hemisphere. The standard routine number is now 14. At the National Hospital the Medical Research Council system requires 17 scalp and two mastoid placements; in others even more are used including pharyngeal and tympanic leads (McLean, 1949). Multi-dimensional recording methods are also advocated (Bagchi and Bassett, 1947), as well as automatic analysis of the brain rhythms. Automatic wave-band analysis received a great impetus when Walter developed his instrument; this is an improvement on other methods, as it gives an immediate analysis superimposed on the primary tracing as it is recorded. It has, however, the defect of a limited number of wave bands which can be analysed at one time, and one feels that the use of a frequency analyser which does not give the final word upon the problem, and which costs as much as the electroencephalograph itself and requires very skilled technical staff to keep it accurately tuned, is at present premature in a clinical electroencephalographic unit. Another device of Walter's is the toposcope, in which cortical activity is displayed on a large cathode ray oscilloscope and appears as a glow with an intensity proportionate to the activity itself and also with correct spatial distribution, so that by the addition of a diagram of the brain it is possible to visualize focal epileptic discharges as they appear and note the regions to which they spread. This instrument was shown in July, 1947, at the first international meeting at London. Unfortunately I missed seeing it in action, but I did see it undergoing a reconstruction—the number of amplifying channels was being increased from 12 to 24 and a simplified frequency analyser was also being included.

Until recently electroencephalography technique was passive, and care was taken to keep the subject under constant and unvarying conditions. There is an important change of attitude in this respect, and varying types of stress are applied to the patient, ranging from electrical or chemical stimulation of the cortex itself to sedation with barbiturates.

Another technique is sensory stimulation, and the most effective and flexible form seems to be a form of photic driving with a flashing light. The phenomenon of photic driving was investigated by Adrian and his co-workers, and as long ago as 1933 some abnormalities in visual perception of flicker in organic cerebral disease were described by Phillips.

It has long been known that a flickering light may induce seizures in epileptic patients, and one has often examined patients who report seizures while at the cinema. The method used by Walter is to subject the patient to very brief (10 to 15 microseconds) light flashes of high peak intensity (88,000 candle power). The evoked potential variation in the occipital regions is a sinusoidal wave form bearing a superficial resemblance to the α rhythm and, within certain limits, following the flash frequency. Walter's technique is to utilize a trigger circuit to flash the light, which may be tripped by any selected frequency of the patient's own brain rhythms. Using this complex arrangement, he has been able to demonstrate a frequency analysis resembling that of the wave and spike formation in certain epileptics who have no overt wave and spike discharges in their direct electroencephalograph. The subject of frequency analysis is dealt with fully by V. J. and W. G. Walter in a recent communication (1949). It is possible that this stroboscopic technique may be of some value in the therapy of psychiatric patients, and Walter has reported some indication of progress in this method which is as yet in its infancy.

To turn now from complex electronic methods, one of the simplest and most interesting methods is that of sleep-recording, which has long been under investigation by F. A. and E. L. Gibbs and their co-workers in Chicago. I saw a number of these sleep-recordings, and there is no doubt that there is a great increase in the numoer of seizure discharges recorded (as high a figure as 90% in epileptic children was reported to me). Here, however, one is up against problems of time, and also against the fact that few electroencephalographers are as familiar with sleep-recordings as are F. A. and E. L. Gibbs; moreover, sleep records have an entirely different appearance from those made on the conscious subject. But F. A. and E. L. Gibbs propose to bring out another atlas: the first volume will deal with normal sleep records and is to be published in July, 1949, and the other two volumes will deal with sleep records in pathological conditions.

Conclusion.

Perhaps I have given a rather one-sided and unbalanced view of the subject. Thus, until now there has been no mention of the work of the Montreal School where Penfield and Jasper (1947) are carrying out important experimental and clinical work on the fundamental nature of the epileptic discharge. I feel that their work is perhaps the most valuable work on epilepsy since that of Hughlings Jackson.

I thank the Australasian Association of Psychiatrists for inviting me to give this address. Psychiatrists have always been very active in promoting and studying the application of electroencephalography, and wherever I went I found that a similar state of affairs obtained, and some of the best work is being carried out in neuropsychiatric institutions. We can look forward, I hope, to the not far distant day when we too, in this country, can say the same; even though only a few centres have equipment, it has been my experience that great interest and encouragement have always come from psychiatrists.

Acknowledgements.

I should like to thank the National Health and Medical Research Council, the Medical Board of Royal Prince Alfred Hospital and the Rockefeller Foundation, whose financial assistance made it possible for me to gather first-hand information of a type that is not available in any text or reference. Without the cooperation of Dr. Alison K. Garven and the staff of the electroencephalography department of the Royal Prince Alfred Hospital this survey would not have been possible, and I should like to express my appreciation of their help.

References.

Adrian, E. D., and Matthews, B. H. C. (1934), "The Berger Rhythm: Potential Changes from the Occipital Lobes in Man", *Brain*, Volume LVII, page 355.

Adrian, E. D., and Yamagiwa, K. (1935), "The Origin of the Berger Rhythm", *Brain*, Volume LVIII, page 323.

McLean, P. D. (1949), "A New Naso-Pharyngeal Lead", *Journal of Electroencephalography and Clinical Neurophysiology*, Volume I, page 112.

Baggchi, B. K., and Bassett, R. C. (1947), "Some Additional Electroencephalographic Techniques for Localization of Intracranial Lesions", *Journal of Neurosurgery*, Volume IV, page 348.

Berger, H. (1929), *"Über das Elektrenkephalogram des Menschen"*, *Archiv für Psychiatrie und Nervenkrankheiten*, Volume LXXXVII, page 527.

Dawson, G. D., and Walter, W. G. (1945), "Recommendations for the Design and Performance of Electroencephalographic Apparatus", *Journal of Neurology, Neurosurgery and Psychiatry*, Volume VIII, page 61.

Gibbs, E. L., and Gibbs, F. A. (1947), "Sleep Records in Epilepsy", *Association for Research in Nervous and Mental Disease, Proceedings*, Volume XXVI, page 366.

Gibbs, F. A., Davis, H., and Lennox, W. G. (1935), "The Electroencephalogram in Epilepsy and Impaired States of Consciousness", *Archives of Neurology and Psychiatry*, Volume XXXIV, page 1133.

Gibbs, F. A., and Lennox, W. G. (1944), "Electroencephalography in Epilepsy", *The American Journal of Psychiatry*, Volume C, page 544.

Jasper, H. H. (1949), "Electrical Signs of Epileptic Discharge", *Journal of Electroencephalography and Clinical Neurophysiology*, Volume I, page 11.

Jasper, H. H., and Drooglever-Fortuyn, J. (1947), "Experimental Studies on the Functional Anatomy of Petit Mal", *Association for Research in Nervous and Mental Disease, Proceedings*, Volume XXVI, page 272.

Max, L. W., Wiesner, L., and Bullowa, J. G. (1943), "Criteria for the Selection of an Electroencephalograph", *The Journal of Laboratory and Clinical Medicine*, Volume XXVIII, page 1868.

Penfield, W., and Jasper, H. (1947), "Highest Level Seizures", *Association for Research in Nervous and Mental Disease, Proceedings*, Volume XXVI, page 232.

Phillips, G. (1933), "Perception of Flicker in Lesions of the Visual Pathways", *Brain*, Volume LVI, page 464.

Walter, V. J., and Walter, W. G. (1949), "The Central Effects of Rhythmic Sensory Stimulation", *Journal of Electroencephalography and Clinical Neurophysiology*, Volume I, page 57. (This communication contains a complete bibliography.)

Walter, W. G. (1936), "The Location of Cerebral Tumour by Electroencephalography", *The Lancet*, Volume II, page 305; "A New Electronic Analyser", *Electronic Engineering*, Volume XVIII, page 390; and a personal communication.

ELECTROENCEPHALOGRAPHY AND NEUROPSYCHIATRY.[1]

By ALAN STOLLER,

Specialist in Psychological Medicine, Repatriation Commission Headquarters, Melbourne.

ELECTROENCEPHALOGRAPHY has been steadily growing in importance, as both a clinical and research tool, since Berger's initial publication in 1929. Its worth has been definitely proven in the elucidation and management of such conditions as epilepsy, post-traumatic states and cerebral tumours. Studies of the effects of pharmacological and physiological homœostatic alterations upon the cerebrum, as reflected in the electroencephalogram, have produced a spate of material which is still being collated and is as yet, in the main, not applicable to clinical problems. In the estimation of personality, electroencephalography has so far been relatively ineffective, and this is not surprising when it is realized that it involves an attempt to equate a single physiological phenomenon with a complex integration of behaviour patterns, the expressions of which can be interpreted not only in the form of electrical impulse, but also in the spheres of biochemistry, physical chemistry and even thermodynamics.

[1] Part of a symposium on electroencephalography, held at a meeting of the Australasian Association of Psychiatrists, Sydney, May 24, 1949.

In interpreting electroencephalographic phenomena, it is essential to realize that these can be considered only in relation to the total picture presented by the patient. They need to be evaluated, not only from the aspect of wave form, frequency and amplitude, but also in relation to clinical history, age of patient, physical and neurological examination, and laboratory findings. Hence a good basic knowledge of neurology, pathology and physiology is part of the essential equipment of the electroencephalographer. There are certain factors which need to be considered in examining an electroencephalographic record. Interpretation has to take note of the fact that similar organic disease (for example, general paralysis of the insane) may present different electroencephalographic responses, and in some cases there may even be gross pathological changes without any electroencephalographic variation. An abnormal record is related to abnormal metabolism of nerve-tissue and also to the rate of the pathological process; thus, rapidly progressing cortical atrophy produces δ waves, whilst slowly developing or established cortical atrophy may merely produce the usual α rhythm from the remaining normal nerve cells. As has already been mentioned, similar mental disturbances may be associated with different electroencephalographic pictures, and this is dependent on a varying combination of underlying irreversible and reversible changes and their location within the central nervous system. Another factor which has to be taken into consideration is the degree of maturation of the central nervous system, since considerable variation has been shown to exist during the process of growing up and some variation is revealed even in the investigation of apparently normal adult groups. Some apparently normal persons, such as relatives of epileptics, present abnormal records in the form of cerebral dysrhythmia, yet exhibit no clinical disorder. There has been a difficulty in establishing adequate diagnostic standards of abnormality, so that statistics based on group trends, after the initial gains established, seem now to be relatively fruitless, and it would be best now, as Schwab (1948) points out, to "keep statistics of this sort in the background and study the abnormal and normal physiology of the patients with (obviously) abnormal electroencephalographic records until we know a bit more about these variations". A final point which has to be considered is that a record taken at any one time bears a relationship to the physiological state of the individual at that particular moment, since it is known that drugs, blood sugar level, blood oxygenation and cerebral circulation all affect the record; and it may well eventually become necessary to record pulse rate, respiration rate and various autonomic phenomena at the same time as the electroencephalogram. However, it should be understood at this stage that these refinements constitute counsels of perfection, and do not minimize in any way the already-established clinical use of electroencephalography.

Since electroencephalography in relation to neurology and neurosurgery has been dealt with by the various speakers in this symposium, my main task resolves itself into estimating its value to psychiatry, and in indicating the pathways which are being opened up in the study of personality.

The main practical value of electroencephalography in psychiatry at present lies in the aid which it gives to the diagnosis of concomitant organic nervous disease. However, the presence of the latter does not preclude the necessity to estimate and treat the total behaviour of the patient, with full consideration of both organic and functional aspects. One must also remember that negative electroencephalographic findings are not necessarily an indication of the absence of organic disease. Levin and Greenblatt (1948), in a study of 67 cases of brain atrophy by pneumencephalography and electroencephalography, showed that in some subjects cortical atrophy or ventricular dilatation was revealed by air-studies, although the electroencephalograms were normal; the abnormal electroencephalograms revealed a wide variety of patterns —as wide as the clinical origin of the atrophies which had resulted from trauma, encephalitis, carbon monoxide poisoning, cerebral arteriosclerosis, and heredo-familial degenerative diseases. Psychological testing appeared to give a better indication of brain damage than electroencephalography, except when deterioration was associated with convulsive phenomena; but together, these two methods of investigation were able to establish the diagnosis in 91% of such cases.

Studies of post-encephalitic sequelæ show that the electroencephalogram is of prognostic value in cases in which convulsions develop; considerable electroencephalographic abnormality is manifested by those post-encephalitics who develop behaviour disorders; whilst little significant change is found in Parkinsonism.

In neurosyphilis, in over half the cases electroencephalographic abnormalities are present, and this incidence is increased to 90% when convulsions are present also. Improvement in the electroencephalographic findings with penicillin treatment often occurs, but no absolute correlation with clinical improvement can be established (Callaway *et alii*, 1945).

In a prognostic study it is of interest to note that of the numerous factors which were considered to be of possible value in the prediction of cases of Huntington's chorea, only electroencephalography and blood-groups were able to provide significant data, and the electroencephalographic changes were found to be maximal in the motor areas (Patterson *et alii*, 1948). Denis Hill (1948) has demonstrated an absence of cortical rhythm in advanced cases of Huntington's chorea in which both motor cortex and basal ganglia were degenerated.

Denis Williams (1944) has shown that post-traumatic organic cerebral damage leads to a persistence of electroencephalographic abnormality; a return to normality is substantial evidence that cerebral damage has resolved, and serial follow-up examination is useful in indicating hysteria or the other psychogenic disorders which frequently follow head injuries.

The understanding and diagnosis of the psychiatric manifestations of epileptic disorders have improved through the use of electroencephalography. F. A. and E. L. Gibbs's original enunciation (1941) of flat-topped waves, three to six per second, as indicative of psychomotor epilepsy is not so clear-cut as was first thought, and there is a definite variability in electroencephalographic findings, just as there is in clinical findings. Penfield (1949) has recently reviewed this subject, and he describes temporal focal discharges which are associated with the "*déjà vu*" phenomenon, spatial alterations, mastication and salivation; central spread precipitates *petit mal* automatisms, revealed by small "absences"; whilst frontal automatisms produce confusional states and stereotypies of thinking and behaviour. Putnam and Merritt (1941) have described a form of epileptic equivalent, with frequent absences and an appearance of dulness, which responds to "Dilantin". Also, some "problem children" with variable impulsive behaviour disturbances show epileptic types of discharge on the electroencephalogram (Sargent and Slater, 1946), and some of these respond to "Dilantin" and "Benzedrine". Fuster *et alii* (1948) have localized fast spikes from the temporal lobe with "Sodium Pentothal" in cases of psychomotor epilepsy; this opens up the interesting possibility that if a locus appears consistently in one area, especially in the non-dominant temporal lobe or the posterior part of the dominant temporal lobe, surgical removal may be effective. The diagnosis of periodic loss of consciousness is a constant problem in psychiatric practice, and electroencephalography has been valuable in this sphere. Repetition of examinations, over-breathing, sleep-induction, the administration of sub-convulsive doses of "Metrazol" and photic stimulation have helped raise the percentage of positive diagnoses in epilepsy. Two necessary correctives need to be stressed—namely, that negative electroencephalographic findings are only an indication of the absence of epilepsy and not an absolute finding, and that a dysrhythmic electroencephalographic tracing is only one manifestation of epilepsy, which may be due to many underlying causes, such as abscess, tumour, trauma, vascular disease, or birth ischæmia. Hysterical fainting spells do not produce electroencephalographic changes, unlike epilepsy and the various forms of vaso-depressor syncope.

The constant finding of a high incidence of electroencephalographic abnormality in groups of psychopaths, especially if they are of the immature aggressive type, is the most significant relationship so far established between electroencephalography and psychiatric disorder (Hill, 1944). The incidence is higher when the psychopath is young, when there is a family history of psychopathology and when there is a history of previous head injury (Gottlieb *et alii*, 1946). The abnormality consists of an increased amount of θ wave activity (five to seven per second), which is not present in psychoneurotics or cyclothymics, and tends to appear maximally at one temporal lobe (Golla, 1948). Paroxysmal disorders may be present, and a focal epileptic type of record has been obtained from persons with aggressive behaviour and amnesic episodes (Hill, 1944). Abnormal recordings may be brought out by ingestion of a large amount of fluid, by hypoglycæmia or by over-breathing. It should be noted, though, that many persons with psychopathic behaviour disorders have no electroencephalographic abnormalities, whilst some persons, who present the minor electroencephalographic changes exhibited by psychopaths, are perfectly adjusted. It is considered that the electroencephalographic phenomena in psychopaths represent a delay in maturation of the cortex rather than a distinct neurological disease. This is shown by the fact that the highest incidence of abnormality exists in the younger members of this group, and delayed stability tends to develop as the years progress. The same trend is discovered in epileptics without personality disorder (Simons and Diethelm, 1946).

More schizophrenics present abnormality in their electroencephalographic records than a control group, with descriptions varying from δ waves in the catatonic phase (Walter, 1942) to reduced amplitude, tendency to fast bursts and, in some cases, epileptiform patterns. Many schizophrenics give normal records, so that the electroencephalogram of itself cannot be considered of diagnostic importance. No significant findings have been demonstrated in the manic-depressive group. As I have already indicated, age variations always need to be considered, and with the onset of senile and arteriosclerotic changes, slow waves appear more readily. The electroencephalogram gives some indication of differential diagnosis between these groups and the involutional and manic-depressive groups, in which if anything there is a weighting towards faster rhythms.

No correlation of electroencephalography with intelligence has been found, although there is a higher incidence of electroencephalographic abnormality in mental defectives than in control groups, undoubtedly due to a higher incidence of underlying brain disorder.

Lemère's original contention (1936) that there is a good α rhythm in cyclothymics and a poor α rhythm in schizophrenics has not been substantiated. Workers generally agree that inner tension tends to break up α rhythm and interpolate faster rhythms. This phenomenon is often observed in the early stages of electroencephalographic recording before a patient has settled down, occurs experimentally when a mental task is performed, and is also present in groups of anxious psychoneurotics (Brazier *et alii*, 1943). Margaret Kennard (1947) has shown conversely that normal subjects with a stable α rhythm of 10 per second have less active tendon reflexes than tense subjects or neurotics. Increased action-potentials from the frontalis muscle in association with alertness have been demonstrated by Kennedy and Travis (1947). Kennard (1948) again has produced suggestive evidence of the importance of the entry of afferent impulses in activating the thalamus and producing a normal electroencephalogram. Accordingly, when we see this high correlation between anxiety and fast rhythms, and associate this with the recent biochemical findings of fatigue in nerve cells, an interesting and promising field of research opens up before us. Hysterical phenomena do not produce abnormality in the electroencephalogram, and it is possible that the reported absence of blocking of α rhythm in cases of hysterical blindness may occur because this is a normal finding in some people (Golla *et alii*, 1943). Hypnosis is not productive of an abnormal record and is consequently different from sleep, which presents a characteristic tracing (Loomis *et alii*, 1936).

From the evidence available, it would seem that it is worth while making an electroencephalographic examination before physical methods of treatment are undertaken, in order to estimate the amount of therapeutic trauma the particular brain can withstand without developing epilepsy or gross cerebral deficiency. A pre-shock abnormal electroencephalographic record is considered to indicate an uncertain prognosis (Weil and Brinegar, 1947); but the post-shock slowing of the record bears no relation to the clinical outlook (Hoaglund *et alii*, 1946). Slowing of the record is observed generally by the fifth treatment, and this usually disappears within two months of the completion of treatment, though it may last for as long as six months. Pacella and Barrera (1945) have shown that, of 500 patients treated with electro-convulsive therapy, the two who developed epilepsy had dysrhythmic records before shock treatment; there were some, though, who had this type of abnormality and did not develop epilepsy —which shows that other factors are present in such a development. Electroencephalography has also been of value in demonstrating that unidirectional current produces less cerebral disturbance than alternating current with, apparently, the same therapeutic results (Proctor and Goodwin, 1945).

The exact relationship between consciousness and electroencephalographic changes presents many problems. Romano and Engel (1944), in their studies of toxic-infective and anoxic disorders, showed a parallelism between lack of awareness and degree of disorganization of the α rhythm, with reversibility in some cases. Mental deterioration may persist, the α rhythm becoming reorganized at a lower frequency. My own experience has shown an almost constant correlation between an α rhythm of six to eight per second and mental deterioration, and especially in epileptics the appearance of this phenomenon is of grave prognostic import.

Kennedy *et alii* (1948) have recently demonstrated, by placing bipolar electrodes behind the external canthi of the eyes, that intermittent spindle-shaped waves of a frequency of eight to twelve per second and an amplitude of 20 to 30 microvolts may be produced by the process of thinking. This rhythm has been termed "κ rhythm", and results from such mental efforts as problem-solving, discrimination and memory tasks. This rhythm is not related to breathing, pulse-rate, eye-movements, *et cetera*, and is hence not the same as the ordinary α rhythm, which, moreover, is inhibited by mental activity. This discovery, if confirmed, opens up an entirely new field for exploration of electroencephalographic activity in relation to mental processes.

Conclusion.

In this short résumé an endeavour has been made to minimize speculation and to keep to a hard core of solid fact. It would appear to me that electroencephalography is now an essential adjunct to the work of any practising neuropsychiatrist. Advances in the future will, I consider, occur through the evaluation of existent data, through the establishment of widely-used norms, through the examination of abnormal patients in controlled situations using a number of physiological variables, through the increased use of electrode-placements, such as those in the pharynx or the deep electrode-placements of the operating table, and, maybe too, through the investigation of κ waves.

Electroencephalography as it exists at present offers no royal road to the solution of neuropsychiatric problems, and I myself consider that it never will be able to bridge the gap which exists between a simple physical phenomenon and the higher expressions of human activity. Considered as a clinical tool, which is the only way in which it can be regarded, it may be said to have opened up a field of rich promise.

Bibliography.

Berger, H. (1929), *"Über das Elektroenkephalogram des Menschen. I", Archiv für Psychiatrie und Nervenkrankheiten*, Volume LXXXVII, page 87.

Brazier, M. A. B., Finesinger, J. E., and Cobb, S. (1945), "A Contrast Between the Electroencephalograms of 100 Psychoneurotic patients and those of 500 Normal Adults", *The American Journal of Psychiatry*, Volume CI, page 443.

Callaway, J. L., Löwenbach, H., Noojin, R. O., Kuhn, B. H., and Riley, K. A. (1945), "Electroencephalographic Findings in Central Nervous System Syphilis Before and After Treatment with Penicillin", *The Journal of the American Medical Association*, Volume CXXIX, page 938.

Fuster *et alii*, quoted in "Progress in Neurology and Psychiatry", edited by E. A. Spiegel (1948), Volume III, page 266.

Gibbs, F. A., and Gibbs, E. L. (1941), "Atlas of Electroencephalography".

Golla, F. L. (1948), "Electrophysiology in Psychiatry", in "Modern Trends in Psychological Medicine", edited by N. G. Harris, Chapter 5.

Golla, F., Hutton, E. L., and Walter, W. G. (1943), "Objective Study of Mental Imagery; Physiological Concomitants. Appendix on New Methods of Electroencephalographic Analysis", *The Journal of Mental Science*, Volume LXXXIX, page 216.

Gottlieb, J. S., Ashby, M. C., and Knott, J. R. (1946), "Primary Behaviour Disorders and Psychopathic Personality, Correlation of Encephalogram with Family History and Antecedent Illness or Injury", *Archives of Neurology and Psychiatry*, Volume LVI, page 381.

Hill, D. (1948), "The Electroencephalogram in Organic Cerebral Disease", *Proceedings of the Royal Society of Medicine*, Volume XLI, page 242; (1944), "Cerebral Dysrhythmia. Its Significance in Aggressive Behaviour", *ibidem*, Volume XXXVII, page 317.

Hoaglund, H., Malamud, W., Kaufman, I. C., and Pincus, G. (1946), "Changes in the Electroencephalogram and in the Excretion of 17 Ketosteroids Accompanying Electro-shock Therapy of Agitated Depression", *Psychosomatic Medicine*, Volume VIII, page 246.

Kennard, M. A. (1947), "Autonomic Inter-relations with Somatic Nervous System", *Psychosomatic Medicine*, Volume IX, page 29; (1948), quoted in "Progress in Neurology and Psychiatry", edited by E. A. Spiegel, Volume III, page 265.

Kennedy, J. L., and Travis, R. C. (1947), "Prediction of Speed of Performance by Muscle Action Potentials", *Science*, Volume CV, page 410.

Kennedy, J. L., Gottsdanker, R. M., *et alii* (1948), "A New Electroencephalogram Associated with Thinking", *Science*, Volume CVIII, page 527.

Lemère, F. (1936), "The Significance of Individual Differences in the Berger Rhythm", *Brain*, Volume LIX, page 366.

Levin, S., and Greenblatt, M. (1948), "Electroencephalogram in Cases with Cortical Atrophy and Ventricular Dilatation", *The American Journal of Psychiatry*, Volume CV, page 220.

Loomis, A. L., Harvey, E. N., and Hobart, G. (1936), "Brain Potentials During Hypnosis", *Science*, Volume LXXXIII, page 239.

Pacella, B. L., and Barrera, S. E. (1945), "Sequelæ and Complications of Convulsive Shock Therapy", *Archives of Neurology and Psychiatry*, Volume LIII, page 82.

Patterson, R. M., Baggchi, B. K., and Test, A. (1948), "The Prediction of Huntington's Chorea. An Electroencephalographic and Genetic Study", *The American Journal of Psychiatry*, Volume CV, page 786.

Penfield, W. (1949), "Epileptic Manifestations of Cortical and Supracortical Discharge", *The Journal of Electroencephalography and Clinical Neurophysiology*, Volume I, page 3.

Proctor, L. D., and Goodwin, J. E. (1945), "Clinical and Electrophysiological Observations Following Electro-shock", *The American Journal of Psychiatry*, Volume CI, page 797.

Putnam, T. J., and Merritt, H. H. (1941), "Dulness as an Epileptic Equivalent", *Archives of Neurology and Psychiatry*, Volume XLV, page 797.

Romano, J., and Engel, G. L. (1944), "Delirium. I. Electroencephalographic Data", *Archives of Neurology and Psychiatry*, Volume LI, page 356; "Delirium. II. Reversibility of the Electroencephalogram with Experimental Procedures", *ibidem*, page 378.

Sargent, W., and Slater, E. (1946), "An Introduction to Physical Methods of Treatment in Psychiatry".

Schwab, R. S. (1948), "Progress in Neurology and Psychiatry", edited by E. A. Spiegel, Volume III, page 259.

Simons, D. J., and Diethelm, O. (1946), "Electroencephalographic Studies of Psychopathic Personalities", *Archives of Neurology and Psychiatry*, Volume LV, page 619.

Walter, W. G. (1942), "Electroencephalography in Cases of Mental Disorder", *The Journal of Mental Science*, Volume LXXXVIII, page 110.

Weil, A. H., and Brinegar, W. C. (1947), "Electroencephalographic Studies Following Electro-shock Therapy; Observations on 51 Patients Treated with Unidirectional Current", *Archives of Neurology and Psychiatry*, Volume LVII, page 719.

Williams, D. (1944), "The Electroencephalogram in Traumatic Epilepsy", *The Journal of Neurology, Neurosurgery and Psychiatry*, Volume VII, page 103.

THE PREVENTION AND CONTROL OF TUBERCULOSIS IN CHILDHOOD.[1]

By H. W. WUNDERLY,
Commonwealth Director of Tuberculosis, Canberra.

IT is said that King Edward VII, on being told that tuberculosis was preventible, made the very natural rejoinder "If preventible, then why not prevented?" It is the prevention of this disease that is the chief subject of my remarks tonight, and the greater part of the problem of control will be left to others. After outlining a plan for prevention, in which an attempt will be made to show how easily children can be protected against tuberculosis, I shall give some reasons why parts of this plan are not being implemented.

Nutrition and Housing.

The list of preventive measures would be very incomplete if mention were not made of the importance of good housing and of adequate nutrition. Both these subjects are too vast to be dealt with tonight, but I would like just to call your attention to one or two points. It is well known that the incidence of tuberculosis is highest where the social conditions are at their worst, so when any rehousing scheme is in operation consideration should be given to the granting of priority to tuberculous households.

Your Department of Public Health is taking a very active interest in the problem of nutrition and through the medium of pamphlets, booklets, lectures and broadcasts, as well as by the publication of most helpful articles in the daily Press, is doing much to instruct the housewife—not only in what to buy, but in how to cook and serve those foodstuffs which will do most to maintain the health and build up the resistance of members of the household. In addition, this Department makes an issue of essential foods to necessitous households and so supplements the assistance which is given through the tuberculosis allowances of the Commonwealth Government.

The Bovine Hazard—Milk.

There are various schemes on foot to supply milk to all school children and some suggest that this should be made available whether the children are able to get plenty of milk in their own homes or not. Others think that this distribution of milk should be limited to those children attending schools in substandard areas or known to be contacts of patients with tuberculosis.

One thing on which everyone is agreed is that every care must be taken to ensure that milk supplied is free of tubercle bacilli. This can be done in one of two ways—either by supplying milk from tuberculin-tested herds or by using pasteurized milk, both being distributed in bottles which are covered with caps extending over the lip of the bottle.

Fortunately bovine tuberculosis in childhood is not, in most parts of Australia, a major problem. You will remember the investigation carried out by Dr. Reginald Webster at the Melbourne Children's' Hospital. He found bovine bacilli in tonsils and in cervical and mesenteric glands but not in specimens of bone and joint tuberculosis—all of these seemed to be due to bacilli of the human strain.

During a tuberculin epidemiological survey of one capital city, it was noticed that there was a very high percentage of "positive" reactors amongst the children up to five years of age. As the incidence of pulmonary tuberculosis amongst the adult population was not unduly high and the control measures were thought to be effective, another probable source of infection of the children had to be sought. The cattle supplying milk to that city were

[1] Read at a meeting of the Section of Pædiatrics of the New South Wales Branch of the British Medical Association on November 17, 1949.

tuberculin tested, and at one stage the percentage of cows giving a "positive" reaction was as high as 43. I have not the final figures but understand that the overall percentage was not quite so high—but still far too high.

If milk does not come from attested tuberculin-tested herds or has not been pasteurized, or in either case has not been properly distributed in correctly capped bottles, it should be boiled for three minutes before being given to children. It is not necessary to remind an audience such as this that the greatest possible care should be taken to see that cows are milked under proper hygienic conditions, that the milk is chilled at once and that it is not contaminated or over-heated during transit to the milk depots. The cleaner the milk before pasteurization, the safer the final product.

It has been asked what percentage of the herds in Australia have tuberculous cattle amongst them. The Assistant Director of Veterinary Hygiene has supplied the following information:

1. All untested herds should be considered as having some tuberculous stock.

2. The incidence would vary from the presence of odd reactors to heavy infection in some herds and in some districts.

3. Australian herds generally are not heavily infected compared with those in other countries.

4. From estimations over the years 5% to 10% has been considered a usual rate of infection, but more recently, with the greatly increased testing performed, the overall percentage must have been reduced.

Under the Milk Board requirements all cattle supplying milk to Sydney, Newcastle, Wollongong, the Blue Mountains and Erina areas must be tested for tuberculosis. There are also 10 "protected areas" involving 3000 cattle situated in country centres in which all cattle are tested, and introduction of cattle (except for slaughter or sale under special conditions) may be made only after they have given a "negative" response to the tuberculin test.

So I would say the hazard of bovine infection is very slight and could be avoided altogether by one of the following three methods: (i) tuberculin testing of all cattle, destruction of all "positive" reactors and use of milk only from non-reactors; (ii) pasteurization of all milk; (iii) boiling for three minutes of all milk which does not come from tuberculin-tested cattle or which has not been pasteurized or properly distributed.

The Human Hazard.

The second hazard to be considered is the human one. The contact of an infant under one year of age is so close and continuous with its parents that if one happens to be tuberculous the risk of infection is very great. The danger of infection by another member of the household, such as nurse, nursemaid, domestic, grandparent, aunt or uncle, is also considerable during this period and in fact extends for some years beyond infancy.

It is well known that the ability to develop immunity is very small in the first year of life, and the younger the child when it is infected, the more serious the disease. In addition to the large dosage of bacilli as the result of intimate exposure in the household and the lack of acquired resistance, there may be other dangerous factors, such as under-nourishment, and the reactivation of tuberculosis in enlarged glands following measles or whooping cough.

The most important method of prevention is to locate all "open" cases of tuberculosis—that is, to locate all people with "positive" sputum. Every woman receiving pre-natal attention should have an X-ray examination of her chest. If, after thorough investigation, it is found that she has pulmonary tuberculosis, her sputum must be thoroughly and frequently examined. Many women can go safely through pregnancy after their lung condition has been controlled by artificial pneumothorax. Others whose lungs will not collapse, or in whom this form of therapy is not indicated, can still be taken through their pregnancy without deterioration of their pulmonary lesion. It might not be out of place here to mention that these women need a period of rest before the confinement and, unless the condition is quite stable, two or three months' rest after that event. Very careful and frequent clinical, radiological and bacteriological investigations must be continued for at least a year and the X-ray examination should be repeated at three-monthly intervals during the second year.

This is the ideal which, unfortunately, in so many instances cannot be achieved. A tuberculous mother should not attempt to suckle her infant, but, if her physical condition allows, she can do something towards its nursing. While doing this she should wear a mask if she has any cough or sputum.

The final answer has not been given to the public health problem of the patient with radiological evidence of probable pulmonary tuberculosis, with no cough or sputum, a negative result from examination of a laryngeal swab and an occasional positive result from culture of fasting gastric contents. In two very large surveys it was found that the number of "positive" reactors to the Mantoux test amongst the contacts of these people was no greater than that amongst the general public of the same age groups. Walton (1949), however, writing on childhood tuberculosis in Middlesbrough in 1947-1948, pointed out that there was a higher "Mantoux-positive" rate in children in contact with the "closed case" than in the non-contact group. The thoroughness of the bacteriological examination in the "closed" case is of supreme importance. This investigation of the contacts in "closed" cases must be repeated in Australia, and it must be conducted with standardized methods.

Sputum should not be regarded as "negative" till it has been investigated by the following methods: smear, concentration, culture and/or animal inoculation. An inoculated animal should not be killed till its Mantoux reaction has become "positive". A negative report should not be given till the draining lymphatic glands and the spleen have been subjected to microscopic examination. No lesion, particularly of the spleen, should be considered as tuberculous unless acid-fast bacilli are demonstrated in smears. A negative report from a purely macroscopic examination can be misleading.

It is essential that no unknown infectious subject of pulmonary tuberculosis comes in contact with the infants and children of whom we are speaking this evening. I would extend that and say that an attempt must be made to locate every infectious person in the community and by education and/or treatment to render these people non-infectious to those with whom they associate. It is the isolation of the germs which is important, and this can be done without isolating the patient—except those few who cannot be educated and so must be isolated.

"Compulsory" Legislation.

I will digress a moment and leave the consideration of prevention to enter the field of control—but only because it bears on the more important sphere of prevention. I said at the beginning that I would give some reasons why it is not possible as yet to implement every part of the plan of control which we all know could be effective.

It is agreed that every infectious case of tuberculosis must be found, and one of the best methods of doing this is by mass or group radiography. It has been proved that the radiological investigation of some groups locates far more infectious persons than a similar survey of other groups. For instance, by taking an X-ray photograph of the lungs of all in-patients, of all patients newly admitted to hospitals and of all out-patients, not only is the health of the hospital staffs protected from exposure to unknown and unsuspected infection, but about sixteen times as many infectious subjects are found as are discovered by mass radiological surveys of the general public.

In order to protect infants and children it was suggested that one of the groups which should undergo compulsory radiography was that of children's nurses, nursemaids and teachers. Another group consisted of those attending pre-natal clinics, another the in-patients and out-patients just mentioned. When this matter was being discussed at a conference of Ministers for Health, the ministers thought that it would be invidious to select certain groups from

the general public and compel them to have a radiograph taken of their lungs. So the Ministers for Health and the State Premiers asked the Commonwealth to draw up sample legislation, which they agreed to submit to their Cabinets and which would include a "drag-net" clause that would ensure the radiological examination of all over fourteen years of age. The required groups could then be selected and submitted to radiographic examination as occasion demanded.

It might be of interest if I told you of the other clauses in this so-called "compulsory" legislation dealing with the plan to control tuberculosis. There are four of them:

1. Compulsory notification of all forms of tuberculosis on bacteriological confirmation or on "reasonable evidence", which was defined as radiological evidence *plus* history and clinical findings.
2. Power to compel to undergo investigation a contact of a known infected subject or a suspect who persistently refused investigation.
3. Power to restrain the recalcitrant, "sputum-positive" patient, such as the chronic alcoholic.
4. A clause related to the radiological examination of any person over fourteen years of age.

Not all the States have passed the necessary legislation covering Clause 4, with the result that we cannot be sure that infants and children will not be exposed to the risk of infection by their nurses, nursemaids, child welfare workers or teachers. Fortunately, most nurses and teachers undergo radiological examination at least once. These are not new ideas—they have been recommended for twenty years by such bodies as the Federal Health Council and the National Health and Medical Research Council, but then so has pasteurization of milk.

Before leaving this field I should like to give you two examples of the folly of leaving the recalcitrant patient unrestrained. Walton describes one family in Middlesbrough in which the father is infectious, confined to bed at home and refusing hospital isolation. The mother is a mental defect, and of her seven children under the age of twelve years, two have adult phthisis with cavitation, two have primary foci in the lungs associated with mediastinal adenitis and one has cervical adenitis of tuberculous origin. One has died of tuberculous meningitis. From Adelaide, Cowan relates the story of the father of 12 children who refuses to go into a hospital or sanatorium, and five of whose children have already been in the Children's Hospital with tuberculosis.

B.C.G. and Streptomycin.

The question now arises—how can we prevent infants and young children from being infected with the mycobacterium of tuberculosis or, if they have already been infected, what can be done to prevent the primary lesion from passing into the stage of dissemination?

If infants of tuberculous mothers are removed from the source of infection straight after birth they can be given B.C.G. vaccination during the first two weeks and kept in the hospital or nursing home for six or eight weeks, or however long it takes for them to develop a "positive" reaction to an intradermal injection of 0·1 millilitre of 1:1000 solution of old tuberculin. It must be stressed that the infant must not be returned to the tuberculous environment until the result of its skin test has become "positive". I repeat that an infant has very small power to develop immunity, and therefore two intradermal injections of 0·1 millilitre of B.C.G. separated by an inch should be given at the one time.

All "Mantoux-negative" children who are compelled to live in an infectious household or environment should be given the benefit of B.C.G. vaccination. Wallgren (1941) has expressed his faith in B.C.G. vaccination in these words: "It is also remarkable that I have not seen a single adequately vaccinated child die from tuberculosis after having been infected, nor have I observed a single case of tuberculous meningitis among vaccinated children." It must be remembered that this vaccination gives only partial immunity or increased resistance and that no effort must be spared to limit the exposure to tubercle bacilli. That means that the infectious individual must be unceasing in his or her endeavours to protect the other members of the household.

Having failed to prevent the infant or child from coming in contact with the mycobacterium, what can we do to limit the spread of the organism? I refer to the children, the under-four age group, who yield "positive" Mantoux reactions. We all know how very dangerous tuberculosis can be in this early age group and that the younger the child when infected, the more serious the outlook.

Dorothy S. Price (1948), in stating that the "substantial reduction in the infant death rate can be effected by early diagnosis followed by treatment", showed that among 78 tuberculous infants aged up to one year in the period 1933-1937, the tuberculosis mortality was 78·0%. Among 46 tuberculous infants of the same age group between 1938 and 1945, the tuberculosis mortality had fallen to 34·7%—still a very high figure, as I shall show in a minute. In her age group of up to three years the tuberculosis mortality fell from 60·7% in 1933-1937 to 18·0% in 1938-1942, but rose again to 22·6% in 1943-1945.

Wallgren (1948) had 15 deaths amongst 39 infants under the age of one year—a mortality rate of nearly 37%; and a total of 25 deaths amongst 105 infants under three years of age—almost 25%.

Rischbieth (1949) analysed the records of the children under two years of age with a "positive" Mantoux reaction who were admitted to the Adelaide Children's Hospital in the five-year period 1943-1948. He divided these children into two groups:

1. Those of the pre-streptomycin period, whom he called "the untreated children". There were 41 of these, of whom 16 died (12 of them within six months of their admission to hospital). This was a tuberculosis mortality rate of 39%.
2. Those of the streptomycin period, of whom there were 21. These were given a course of streptomycin of at least six weeks' duration. At the time of his report all were alive and well, 14 of them at least six months and seven at least three months after admission to hospital.

In a personal communication Dr. Rischbieth stated that he now has a series of 29 children under two years of age who have been treated with streptomycin "without any mishaps to date—a vast improvement on our previous figures". . . . "All children over the age of three months are supposed to have a Mantoux test on each admission, provided they have not had one during the previous three months. . . . All those with a positive reaction are investigated and their contacts sent to the Chest Clinic." Dr. Rischbieth will shortly be reviewing the results of the Mantoux tests of between 3900 and 4000 children.

Dorothy Price (1949), when speaking before the British Medical Association in July, 1948, said that in addition to prolonged bed rest, adequate vitamin *D* and calcium, she was giving streptomycin to the primary tuberculous infant under the age of one year. With B.C.G. she and Alston had vaccinated over 60 infants under one year old, some in the first two weeks of life. She went on to say:

> All have returned to their tuberculous homes after becoming Mantoux positive. (100% were positive.) Followed for 1 to 10 years there have been no deaths from tuberculosis, one has a calcified primary complex, and two have died of causes other than tuberculosis . . . to my mind, B.C.G. offers a simple solution to the problem of the infant of tuberculous parents.
>
> Weighing up the pros and cons, therefore, for preventive vaccination, I would say of our Dublin infants in the first year of life who are exposed in the home to an open case of tuberculosis, that over 90% contract the disease; of these 41% die and 59% occupy treatment beds for one to three years. With preventive vaccination the story is 6 weeks in a maternity hospital or 3 months in a children's institution, or if the contact is removed the child may be inoculated in the home. Employing the Swedish vaccine, I would offer 90% security against the development of tuberculosis, and the death rate is negligible. There is no risk whatever in the vaccination itself provided the vaccine is reliable, the vaccinator competent and the rules observed. Finally one looks forward to the day when B.C.G. vaccination will be given to all infants (irrespective of contact) at an early age, thus affording protection from nurse, milk, casual contact and unknown source.

The indications for and the methods of the use of B.C.G. are very well covered in the new edition of the brochure issued by the Commonwealth Serum Laboratories. In it you will see that for Mantoux testing the recommended dose of old tuberculin is 0·1 millilitre of 1:1000 solution unless there is a definite history of recent contact with a known infectious subject, when a patch test should be carried out or 1:10,000 solution used. If the result of this test is negative, then 1:1000 solution should be injected, intracutaneously, before it is decided to use B.C.G. vaccination.

Epidemiology.

A word now about the epidemiology of tuberculosis in childhood. In Australia there have not been many epidemiological surveys with tuberculin tests in the age groups in which we are interested tonight, but at the Adelaide Children's Hospital between 1943 and 1948 some 15,000 children were tested. In the respective age groups the following percentages yielded a "positive" Mantoux reaction: three months to one year, 1·3%; one to two years, 1·4%; two to three years, 1·4%; three to four years, 1·6%; four to five years, 1·7%; and so on, increasing up to 1·9% in the age group eleven to twelve years.

A close family contact was discovered as the infecting source in 40% of the total series, whereas in the age group three months to two years an infecting source was found in 85%, and in the majority of cases either the mother or the father was found to have a previously unsuspected "open" lesion.

Twenty years ago Thorold Grant (1930) made the first Mantoux survey of South Australian children.

> The total number of children was 406; all were under the age of 12 years. Of these there were 75 with a history of contact, of whom 72% gave a positive reaction. There were 63 with doubtful history of contact, of whom 61% gave a positive reaction.

He concluded his report with these words:

> It would appear that the early appearance of a positive reaction to the tuberculin test is unfavourable as denoting early and massive infection, and the earlier the infection the less the chances of survival.

In the Australian Capital Territory during the last twelve months Dr. Gwen Pinner and her associates have tested with tuberculin jelly 1134 children under five years of age. Of the 246 under the age of one year only one yielded a "positive" reaction, and of the 888 in the age group one to four years there were six reactors.

In these days of pneumonectomy and lobectomy, of thoracoplasty and polythene plombage, of phrenic crush and pneumoperitoneum, any of which can produce miraculous results in properly selected patients, and not only help to put many with an apparently hopeless outlook back on their feet, but render them non-infectious or reduce their infectivity, I would like to remind you that still more can be achieved by the correct application of epidemiological information. Every child with a "positive" reaction to a Mantoux skin test should be used as a signpost pointing to a source of infection, which must be relentlessly sought till finally located. In other words, in a plan for the control of tuberculosis "prevention" must be our watchword—for a disease which has been prevented no longer needs control.

References.

Grant, R. L. Thorold (1930), "Tuberculosis of the Lungs and Bronchial Glands in Children", THE MEDICAL JOURNAL OF AUSTRALIA, Volume II, page 679.

Price, D. S. (1948), "Tuberculosis in Childhood", page 12; (1949), "The Need for BCG Vaccination in Infants", *Tubercle*, Volume XXX, page 11.

Rischbieth, H. G. (1949), "Streptomycin in the Treatment of Tuberculosis in Children under the Age of Two Years", *Clinical Reports of the Adelaide Children's Hospital*, Volume I, page 211.

Wallgren, A. (1941), "Primary Tuberculous Infections in Young Adult Life and in Childhood", *American Journal of Diseases of Children*, Volume LXI, page 577; (1948) "B.C.G. Vaccination: Is It of Any Value in Control of Tuberculosis?", *British Medical Journal*, Volume I, page 1126.

Walton, M. (1949), "Childhood Tuberculosis in Middlesbrough, 1947 and 1948", *Tubercle*, Volume XXX, page 195.

Reviews.

BEDSIDE DIAGNOSIS.

IT is refreshing to have to criticize a book which conveys a new outlook and which will prove invaluable to all students and doctors; such a book is "Bedside Diagnosis" by Charles Mackay Seward.[1] The aim of the author is to enable the doctor to pick out the most significant symptom or sign described by the patient and then to present a logical train of thought to ensure that a quick and correct differential diagnosis can be made, as the title implies, at the bedside.

Each chapter of the book is devoted to one particular symptom. Thus in regard to the subject of pain, there are individual chapters upon head pain, thoracic pain, epigastric pain, umbilical pain, hypogastric pain and lateral abdominal pain, and each chapter presents a clear and comprehensive differentiation between the various causes whether they are purely psychic or somatic, or in more complicated cases perhaps psychosomatic or somatopsychic.

Clinical lecturers will find that many of the chapters present them with ready-made topics for bedside discussions with their students, and as an example of such topics mention can be made of the seven pages devoted to epistaxis, of ten pages upon dysphagia or of fourteen pages upon diarrhœa. A long chapter of some thirty-eight pages completely covers pyrexia as a single presenting symptom and the practical approach of this discussion will do much to clear the way for the doctor when he is faced with a patient complaining only of "a high temperature".

As stated in the publisher's note, "the time spent in reading this book will very quickly be saved at the bedside", and this work can be recommended with confidence to all students and practising doctors.

OCCUPATIONAL POISONING.

ALICE HAMILTON, noted authority on occupational diseases, and Harriet L. Hardy have collaborated to produce the second edition of "Industrial Toxicology", the original version of which, compiled by Alice Hamilton alone, was published in 1934.[1]

As in the earlier edition, the subject matter is almost entirely confined to industrial poisonings and consists in the main of a review of the literature in abstract form. The pneumonokonioses are not discussed, and only two aspects of occupational skin disease (oil folliculitis and cancer) are described. Also, there is very little on treatment of industrial diseases. Nevertheless, this edition is more than twice as large as its predecessor.

The authors state that nearly every page has required rewriting. Several new chapters or sections have been added and much of the original material has been considerably expanded and treated with greater detail.

In the introduction industrial and non-industrial toxicology, the factors favouring poisoning, and its prevention are discussed.

Under diagnosis the authors rightly stress the need for obtaining a precise industrial history and make a plea for more flexibility in the diagnostic standards of occupational poisoning.

After a consideration in a single chapter of the alkalis and acids, ten chapters are devoted to the metals, lead, of course, receiving the most attention, but there surely will be very little present-day support for the statement that "metallic lead particles in the lung must act much as do silica particles, setting up a fibrotic process . . ."

Poisoning by the other common metals is dealt with adequately and there are new sections on beryllium, aluminium, cobalt, platinum, osmium, and other rare metals, and on BAL as an antidote for certain metallic poisons, but there is no reference to barium.

---

[1] "Bedside Diagnosis", by Charles Mackay Seward, M.D., F.R.C.P. (Edinburgh), with a foreword by Sir Henry Cohen, M.D., F.R.C.P.; 1949. Edinburgh: E. and S. Livingstone, Limited. 7¼" × 4¾", pp. 388, with a few illustrations. Price: 17s. 6d.

[1] "Industrial Toxicology", by Alice Hamilton, M.D., and Harriet L. Hardy, M.D.; Second Edition; revised and enlarged; 1949. New York: Paul B. Hoeber, Incorporated. 8" × 5¼", pp. 588. Price: $7.50.

In the asphyxiants, carbon monoxide, carbon dioxide, cyanides and hydrogen sulphide are considered. A short section on treatment of cyanide poisoning by nitrites and sodium thiosulphate concludes the section on cyanides.

Several chapters are devoted to solvents and other chemical agents, the more toxic and important of the aromatic and aliphatic series being discussed.

Benzene receives about twice as much space as in the first edition, but in the prevention of benzene poisoning, the need, whenever possible, of using a less toxic or non-toxic substitute for benzene should have been stressed. Amongst the other toxic solvents or chemicals described are aniline, toluene, chlorinated naphthalenes, petroleum distillates, methyl chloride, carbon tetrachloride, tetrachlorethane, trichlorethylene, methyl bromide and carbon disulphide.

In the remaining chapters, turpentine, tobacco, synthetic rubber, plastics, welding, oil folliculitis, occupational cancer (of the skin, lung and bladder), radiant energy and (rather surprisingly) stilbœstrol are considered.

The discussion on radiant energy occupies 36 pages—a substantial increase on the first edition—and is mainly concerned with exposure to radioactive substances, the radio-active isotopes, ultra-violet and infra-red rays.

The brief comment on stilbœstrol records the occurrence of gynæcomastia in male workers manufacturing this substance in England in 1946.

Unfortunately a number of errors appear in the text—for example, on page 91, in connexion with urinary lead excretion, "mg." is printed for microgrammes. Also, on page 261, in the treatment of cyanide poisoning, "sodium thiocyanate" should be "sodium thiosulphate". On page 401 (carbon disulphide poisoning) the first sentence is incomplete, and lower down on the same page is reference to "page 000". The extensive bibliography contains over 1300 references (compared with 655 in the first edition), quite a number of which date back thirty years or more, but the index does not contain sufficient detail. In spite, however, of these defects the book, which has been well printed and produced, contains much valuable and useful information and, like the first edition, will provide a convenient reference manual for the medical industrial hygienist.

THE RETARDED CHILD.

"THE RETARDED CHILD" is a booklet by Miss Herta Loewy in which she describes her method of training and teaching subnormal children.[1] Miss Loewy has been engaged in this work for many years and the system which she has developed has been found effective in helping children who are the subject of varying types of physical and mental retardation. One of her greatest difficulties has been the reluctance of many parents to admit any defect in their child. This has resulted in the passing of much valuable time and the loss of early fundamental training which is essential if a child is to be helped very far along the road to normality.

After a period of close observation and general training Miss Loewy introduces lessons in a variety of number and letter games similar to those used for normal children. These are described in some detail, and there are also suggestions for speech training and musical perception.

This booklet would be useful to parents as an aid to understanding the general methods and attitudes necessary for the effective help of the mentally retarded.

SANITARY SCIENCE.

THE second edition of "Sanitary Science Notes" by H. Hill and E. Dodsworth is a practical little book which should prove most useful to all students of the subject as well as to lay and medical public health officers.[1] As would be expected in a book of only 135 small pages, most of the subject matter is presented in a very condensed manner, but, as stated in the preface, "this volume is not intended to take the place of a text-book"; because of its handy size it can be easily carried for ready reference.

Chapters are devoted to all the various aspects of the subject, such as building construction, insect pests, sewage disposal and water supplies, to mention a few. It is perhaps surprising to Australian readers to read that the septic tank system is now in disfavour, the authors stating that "effluent from tank is often more impure than original sewage", for this system is still the most widely used method of sewage disposal in unsewered areas with adequate water supplies in this country. The chapter upon infectious diseases would be enhanced by including the incubation periods and the isolation periods, as these data are of prime importance to all health officers and students alike. As the book is written for conditions present in England primarily, the provisions of various laws mentioned may be different from those in this country, but these minor differences detract little from this most useful and commendable work.

A YEAR BOOK OF MEDICINE.

"THE 1949 YEAR BOOK OF MEDICINE" has been prepared by the same distinguished group of editors as its predecessor and maintains its standard.[1] The unnecessary adjective "general" has been dropped from the title. Despite the timely elimination of the subsection on metabolism and nutrition (subjects now dealt with in a separate Year Book), this volume has more pages than ever and covers a considerable section of the literature. An indication is given of the date of that literature; the period during which journals were received which were reviewed by the editors in selecting articles for abstracting was from July, 1948, to May, 1949. Other commendable changes are the introduction of a symbol to indicate that a drug mentioned is proprietary, and the elimination of the word "diseases" from the titles of sections; the sections are thus entitled "Infections", "The Chest", "The Blood and Blood-forming Organs and the Kidney", "The Heart and Blood Vessels" and "The Digestive System" and may now logically include articles of, for example, primarily physiological or anatomical interest. This is particularly relevant in relation to the anatomy and physiology of the chest and the physiology of blood formation. The task of selecting material from the vast field of medicine cannot have been easy, but the editors seem to have garnered most of the wheat and little of the chaff. There are few, if any, practitioners, no matter what their field of practice, who would not find this particular Year Book of interest and of practical value in keeping up to date with significant current literature.

HÆMATOLOGY.

"HEMATOLOGY FOR STUDENTS AND PRACTITIONERS", the second edition of which has just been published, has been designed to present the subject of clinical hæmatology in a form that will meet the needs of the medical student and the general practitioner.[1] The author, Willis M. Fowler, is Professor of Internal Medicine in the University of Iowa, and the book is the outgrowth of a series of mimeographed notes on hæmatology combined with a collection of drawings, charts and photomicrographs used in teaching this subject to medical students. This is not, nor does it claim to be, a reference book for those who specialize in hæmatology; the author's aim is to present the subject from a practical, clinical point of view. A chapter on "Transfusion of Whole Blood and Blood Derivatives" contributed by Elmer L. Degowin is a valuable feature. Nine excellent colour plates deserve special mention; these are accurate as well as beautiful, having been drawn to scale from actual cells on blood smears. The text is interspersed with numerous photomicrographs and diagrams. In the arrangement of

[1] "The Retarded Child: A Guide for Parents", by Herta Loewy; 1949. London: Staples Press, Limited. New York: Staples Press, Incorporated. 7¼" × 4½", pp. 52.

[1] "Sanitary Science Notes: A Handbook for Students", by H. Hill, F.R.San.I., F.S.I.A., A.M.I.S.E., and E. Dodsworth, M.R.San.I., M.S.I.A.; Second Edition; 1949. London: H. K. Lewis and Company, Limited. 6½" × 4¼", pp. 146. Price: 7s. 6d.

[1] "The 1949 Year Book of Medicine (July, 1948, to May, 1949)", edited by Paul B. Beeson, M.D., J. Burns Amberson, M.D., George R. Minot, M.D., S.D., F.R.C.P. (Edinburgh and London), William B. Castle, M.D., S.M. (Hon.), Yale, M.D. (Hon.), Utrecht, Tinsley R. Harrison, M.D., and George B. Eusterman, M.D.; 1949. Chicago: The Year Book Publishers, Incorporated. 7" × 4½", pp. 838, with 138 illustrations. Price: $4.50.

[1] "Hematology for Students and Practitioners", by Willis M. Fowler, M.D., with a chapter by Elmer L. Degowin, M.D.; Revised Second Edition; 1949. New York: Paul B. Hoeber, Incorporated. 9½" × 6", pp. 552, with 104 illustrations. Price: $8.50.

the subject matter, descriptions of the normal elements of the blood are followed by chapters on various diseases, on hæmatology in infancy and childhood and on the technique of blood examinations. Several minor criticisms may be made. In the discussion of differential leucocyte counts, the importance of stating absolute numbers as well as percentages is not mentioned. The list of causes of myelophthisic anæmias does not include myelofibrosis or myelosclerosis. In referring to the Tallquist scale for estimating hæmoglobin values, the author writes quite correctly "this method is not acceptable", yet with surprising inconsistency he shows a rather large illustration of the Tallquist scale, with the name of a manufacturer. A misprint was noticed on page 514 where "crest of the sternum" should probably read "crest of the ilium".

On the whole this is a clearly written, eminently readable book, excellently printed and produced. It may be heartily recommended to medical students and to general practitioners.

OBSTETRIC ANALGESIA AND ANÆSTHESIA.

FRANKLIN F. SNYDER is well qualified to present his views in book form on the subject of obstetric analgesia and anæsthesia.[1] His researches on intrauterine respiratory movements are well known and form the first part of the book, comprising seven chapters, on respiratory injuries of the child. These chapters should be studied carefully by practising obstetricians and pædiatricians, for they contain the modern experimental and clinical data on such important conditions as respiratory injuries before birth, intrauterine pneumonia, atelectasis and asphyxia. The second section of the book deals in ten chapters with the treatment of pain during labour. Analgesic agents are discussed in turn from the physiological, pathological and clinical aspects, and the author has produced an excellent, well-documented review of the drugs at present in use. At the end of each chapter a summary is given of the points discussed. To the obstetrician and student these will be invaluable as presenting brief and concise summaries of the wealth of material the author has gathered into his book.

The volume is well set out on good paper, and on the whole is recommended as an addition to the pædiatric and obstetric libraries, not only as a work of reference, but also as one of great practical interest.

Notes on Books, Current Journals and New Appliances.

TRAINING FOR CHILDBIRTH.

SISTER MINNIE RANDELL'S book "Training for Childbirth" is apparently in demand, for since the third edition appeared in 1943 it has been reprinted once (in 1945), and now the fourth edition has appeared.[2] This is not surprising as it provides most useful information and instruction for prospective mothers and is to be commended. In the present edition the book has been completely revised and now includes, as well as diaries by mothers of their first labours, two diaries of the arrival of second babies. These diaries were sent to the author by two mothers who regretted that they had not been trained for childbirth before the arrival of the first child, and should provide reassuring reading for mothers who are fearful of a second pregnancy. The book is one which many medical practitioners will be glad to put into the hands of their patients who are preparing to have a baby. It deals, in terms which any mother of reasonable intelligence can appreciate, with relevant elementary anatomy and physiology, with the mother's part in pregnancy, in labour and in the puerperium, with post-puerperal disabilities and with the return to normal routine.

[1] "Obstetric Analgesia and Anesthesia: Their Effects upon Labour and the Child", by Franklin F. Snyder, M.D.; 1949. Philadelphia and London: W. B. Saunders Company. Melbourne: W. Ramsay (Surgical) Proprietary, Limited. 9" × 5¾", pp. 420, with 114 illustrations. Price: 45s. 6d.

[2] "Training for Childbirth: From the Mother's Point of View", by Minnie Randell, O.B.E., S.R.N., S.C.M., T.M.M.G., F.C.S.P. (Hon.); Fourth Edition; 1949. London: J. and A. Churchill, Limited. 8¼" × 6", pp. 152, with 132 illustrations. Price: 10s. 6d.

Books Received.

[The mention of a book in this column does not imply that no review will appear in a subsequent issue.]

"Syphilis: Its Course and Management", by Evan W. Thomas, M.D., with a foreword by John F. Mahoney, M.D.; 1949. New York: The Macmillan Company. 9" × 6", pp. 340. Price: 42s.

The author's aim is to give a concise review of the status of syphilis today.

"The Second Forty Years", by Edward J. Steiglitz, M.S., M.D., F.A.C.P., with a foreword by Anton J. Carlson, A.M., Ph.D., LL.D., M.D., Sc.D.; 1949. London: Staples Press, Limited. New York: Staples Press, Incorporated. 8" × 5", pp. 332, with illustrations. Price: 15s.

Deals with the problems that come with increasing age.

"Rheumatism", by H. Warren Crowe, D.M. (Oxon.), B.Ch., M.R.C.S., L.R.C.P.; Second Edition; 1949. London: Staples Press, Limited. New York: Staples Press, Incorporated. 8½" × 5½", pp. 270, with 26 illustrations. Price: 17s. 6d.

Deals with rheumatism in all its aspects and is intended for general practitioners interested in the subject.

"Paul Ehrlich", by Martha Marquardt, with an introduction by Sir Henry Dale, O.M., G.B.E., M.D., F.R.S.; 1949. London: William Heinemann (Medical Books), Limited. 8½" × 5½", pp. 280, with illustrations. Price: 25s.

An extension of a previous work by the same author dealing with Ehrlich as man and worker and published in 1924.

"The Origin of Medical Terms", by Henry Alan Skinner, M.B., F.R.C.S.(C.); 1949. Baltimore: The Williams and Wilkins Company. Sydney: Angus and Robertson, Limited. 10" × 6¾", pp. 392. Price: £3 15s. 3d.

Covers the general field of medicine, but is particularly directed to the basic sciences of anatomy, physiology, biochemistry and pathology.

"Stedman's Medical Dictionary", edited by Norman Burke Taylor, M.D., F.R.S.C., F.R.C.S. (Edinburgh), F.R.C.P. (Can.), M.R.C.S. (London), in collaboration with Allen Ellsworth Taylor, D.S.O., M.A.; Seventeenth Revised Edition; 1949. Baltimore: The Williams and Wilkins Company. Sydney: Angus and Robertson, Limited. 9" × 6", pp. 1364, with illustrations. Price: £4 11s. 6d.

In this edition "dead wood" has been cut out and old definitions have been revised; new words have been added.

"Clinical Audiology", by Maurice Saltzman, M.D., with an introduction by George M. Coates, M.D., and a foreword by Matthew S. Ersner, M.D.; 1949. New York: Grune and Stratton. 9" × 6", pp. 214, with 82 illustrations. Price: $5.00.

This book "presents the proper clinical approach to the study and treatment of deafness and tinnitus".

"The Production of Antibodies: Monograph of the Walter and Eliza Hall Institute, Melbourne", by F. M. Burnet, M.D., F.R.S., and Frank Fenner, M.D.; Second Edition; 1949. Melbourne and London: Macmillan and Company, Limited. 8½" × 5½", pp. 156, with a few illustrations. Price: 15s.

A revision of the first edition which was published in 1941.

"Acute Laryngotracheobronchitis", by A. Harry Neffson, M.D.; 1949. New York: Grune and Stratton. 8½" × 5½", pp. 112, with 16 illustrations. Price: $5.00.

Written for the general doctor, the pædiatrician and the laryngologist.

"The Proceedings of the Ninth International Congress on Industrial Medicine: London, 13th-17th September, 1948"; 1949. Bristol: John Wright and Sons, Limited. London: Simpkin Marshall, Limited. 9¾" × 7½", pp. 1120, with illustrations. Price: 60s.

The official report of the Congress.

The Medical Journal of Australia

SATURDAY, FEBRUARY 4, 1950.

All articles submitted for publication in this journal should be typed with double or treble spacing. Carbon copies should not be sent. Authors are requested to avoid the use of abbreviations and not to underline either words or phrases.

References to articles and books should be carefully checked. In a reference the following information should be given without abbreviation: surname of author, initials of author, year, full title of article, name of journal without abbreviation, volume, number of first page of the article. If a reference is made to an abstract of a paper, the name of the original journal, together with that of the journal in which the abstract has appeared, should be given with full date in each instance.

Authors who are not accustomed to preparing drawings or photographic prints for reproduction are invited to seek the advice of the Editor.

SUCCESS.

WHEN we refer to success we generally mean the favourable outcome of some event or series of events. It is rare to use the word in reference to the issue of an undertaking—"with good or bad success". But success means different things to different people. A well-known graduate in law of one of the Australian universities was asked recently to define a successful lawyer and his spontaneous reply was that a successful lawyer was not always a very nice or agreeable person. By saying this, he gave an indication of the generally accepted meaning of the word as applied to human beings—whether they have been able to make money or not. There is no doubt that the man who makes the acquisition of much money his sole end in life is not a pleasant person. Success, of course, can be judged only according to a relative sense of values. Even the habit of judging success in terms of pounds, shillings and pence will cause differences of opinion—what is only a moderate sum of money to one person may be fabulous wealth to another, but even the latter will change his ideas when he has enjoyed his so-called fabulous wealth for a time, and he will then in his own eyes have only a moderate sum. The verdict of success will depend on the life-object of the man seeking or awaiting the verdict. We can speak of a successful burglar or a successful forger—they achieve what they want to achieve, though they may later on have to pay for their misdeeds. We can speak of a successful musician —conductor of an orchestra, player of an instrument, or singer—and the success is gauged by the quality of the music produced, though there may be differences of opinion on that score. Some persons will judge of success here by the number of copies of a song that are sold or of recordings or "croonings" that are bought, but of course there are differences of opinion on what is music and what cacophony. And so we may look at the work of a builder, a printer, a gardener, and what one among us will describe as success may call for little comment from another. When we come to the practitioner of medicine we know that many, lacking perception, will judge of success by the type of motor car which the doctor drives and the "swank" that seems to be inseparable from the would-be impressive. Others will try to discover whether the practitioner is really a "good doctor". It all depends on the point of view. One man will be able to argue that Macbeth was a success and another that Albert Schweitzer is a failure.

When we think of success in medicine, there comes to mind the oft-repeated reference to the "nobility" inherent in its practice and the fear that it may be allowed to degenerate into a trade. At first sight this seems unfair to a tradesman, but this need not be so. One who follows a trade can, and should be, just as honourable as any of his fellow men, and just as faithful in the performance of his work. He can take pride in his craftsmanship, and indeed he has this in common with many practitioners of medicine, especially those who practise surgery in its orthopædic and plastic subdivisions. Many tradesmen are artists. We need only think of builders, housepainters, printers (typesetters, compositors and machinists) to realize this. The work of the expert stands out clearly against that of the incompetent among tradesmen as well as among doctors. The peculiar attribute of a professional man is not easy to define. He applies science to the practical purposes of life, but so does the tradesman. He has as the basis of his activities the knowledge and discipline afforded by general culture; but, again, who can declare that trades have no cultural basis? Perhaps we can say that there is implicit in a professional calling some element of altruism, some self-abnegation, some devotion to the welfare of humanity. There may be some who would belittle or deny this statement, but two considerations will support it. The first is that medicine is concerned with the discovery of new disease processes, with the elucidation of obscure diseases and with the safeguarding of human beings lest they become affected by malign processes. The other is that in their every-day work doctors are concerned, indeed must be concerned, with the minds of men and women—with their outlook on the world in general, their attitude to each other and to their daily avocations. This last consideration, shared with the clergy and also perhaps with lawyers, does make the calling of a medical practitioner different from that of most other people. Returning then to our relative sense of values, doctors themselves must judge their success according to the way in which they attain the objects of their profession; in other words, whether they are good doctors.

Two questions remain—how success, real success, is to be achieved in medicine, and what attitude is to be adopted by those who have achieved it. To obtain success of any kind, fixity of purpose, in other words devotion to the objective, is necessary. All training in medicine is directed in the right way and the practitioner has to follow what he knows to be the right path. This does not mean that doctors are not entitled to make a reasonably good living. Like any other person, they are entitled to just payment for what they do. No one who is devoted to the principles of medicine will be guilty of overcharging, or even of making any charges when patients are unable to pay. It has been said that it is not right to expect doctors to declare that their lives are devoted to the service of humanity, but that only the professional life is involved. In reply to this it might be stated that a doctor's professional life must colour his whole life—

that it would be impossible for a wholly devoted doctor to drop his professional role one minute and to become, perhaps only potentially, something quite different the next. Professional habits cannot be cast off like a dust coat. The doctor, attentive to his duty, becomes one with those among whom and for whom he works. Bertrand Russell in his essay on the happy man writes that the whole antithesis between self and the rest of the world, which is implied in the doctrine of self-denial, disappears as soon as we have any genuine interest in persons or things outside ourselves. "Through such interests a man comes to feel himself part of the stream of life, not a hard separate entity like a billiard-ball, which can have no relation with other such entities except that of collision." The successful doctor knows that, with his patients, he is part of the stream of life. At this point it should be easy to answer our second question—what attitude the successful doctor is to adopt. In this we mean how he is to behave towards his brother practitioners. There is such a thing as being over-wise in one's own conceit. Since such a man as Saint Paul wrote that he did certain things, lest he who had preached to others should become a castaway, it is clear that men of today need to have care; in fact the higher they have climbed the ladder of success, the more careful they need to be—if for no other reason than that they have further to fall if they do fall. One essential requirement is tolerance and another is generosity of mind to others who may not appear to be as successful as they themselves are. This means that success carries responsibilities with it. It is easy to believe evil of a brother practitioner on hearsay evidence. Because one doctor does not know how another has become financially prosperous, the last thing he should do is to suspect that the other has been guilty of professional wickedness. Again if one doctor, clearly a successful and "good" doctor, hears something about another practitioner which possibly affects him, he should go to see the other and ask what truth there is in what he heard. In each instance the man of success will "lose something that matters" if he acts without due caution. We know that, far removed from the man of success whom we desire to see in medicine, there are those whose god is their belly and whose end is destruction. But between these two are many grades. We may not understand much of the meaning of life and of why we try in our groping to become good, and thus successful, doctors. If this is so, we are not alone in our lack. We may recall what Walt Whitman wrote:

O ME! O LIFE!

O me! O life! of the questions of these recurring,
Of the endless trains of the faithless, of cities fill'd with the foolish,
Of myself for ever reproaching myself (for who more foolish than I, and who more faithless?),
Of eyes that vainly crave the light, of the objects mean, of the struggle ever renew'd,
Of the poor results of all, of the plodding and sordid crowds I see around me,
Of the empty and useless years of the rest, with the rest me intertwined,
The question, O me! so sad, recurring—what good amid these, O me, O life?

Answer.

That you are here—that life exists and identity,
That the powerful play goes on, and you may contribute a verse.

Current Comment.

EXPERIMENTAL ENCEPHALOMYELITIS.

INTEREST has again been awakened in the pathogenic properties of tissue extracts derived from various mammalian sources. It is curious to look back a generation and to reflect that the era which produced some rather rigid concepts of immunity, not only gave us an invaluable lead in the understanding of immune processes, but also made possible practical prophylaxis of some diseases, and laid the foundations of the physical and biological aspects of allergy. Though not really related to this work, a clinical realization was also gained of the potential toxic effect of mammalian tissues or fluids when introduced into a foreign and intolerant environment. It is interesting even to consider how damaging blood becomes once it escapes from its wonted conduits. Allergy, with certain cautious reservations, is perhaps at the root of certain striking changes which can now be regularly induced in experimental animals by subcutaneous or intraperitoneal injections of emulsions of certain mammalian brains. For a number of years various experimenters have been able to produce encephalomyelitis in this way, but not with any degree of certainty or regularity. It was later observed that some other substances could act as adjuvants, including killed bacteria and sterile lanoline or paraffin. Such preparations have also induced antibody formation.

C. E. Lumsden now reports the results of an extensive series of experiments which have been carried out on similar lines to those of other teams recently engaged on the same work.[1] In Lumsden's work experiments were first made with tissue emulsions without adjuvants, and later with these additions, which included tubercle bacilli killed by heat and proprietary lanoline bases. The experiments were repeated on several species of laboratory animal, and trial was also made of emulsions of peripheral nerve tissue as well as brain. The effect of age on the potency of these preparations was also investigated, and inquiry was made into the capacity of the animals to acquire immunity. One set of experiments of considerable interest aimed at establishing what effect, if any, was produced by antihistaminic substances in preventing an encephalomyelitic response in the test animals. It was obviously important, too, to know whether the lesions were transmissible from one animal to another of the same species. Finally, the clinical and histological aspects of the lesions so produced were studied with care, the gaits and muscular activities and limitations of the affected animals being recorded on moving pictures. There seems no doubt that the lesions produced in the brain by this method are of constant and distinctive nature. Multiple foci of perivascular cellular proliferation are disseminated throughout the whole of the brain and the spinal cord, being more abundant in certain constant locations. They are almost, though not entirely, confined to the white matter, and such invasions of the grey matter as occur do not affect the cerebral cortex. In the cord the lesions of the white matter occasionally enter the grey substance of the horns along a vessel, but no affection of the peripheral nerves could ever be found.

The most striking finding in this and similar work is that the essential constituent of the substances used for provocative injections is nervous tissue, without which none of the adjuvant materials have any power. No other tissue is effective, even when reinforced by other adjuvants of proven capacity. Though the term "encephalomyelitis" is used, it is to be understood that the reaction is not really leucocytic, but is characterized by a profuse proliferation of the adventitial cells and some softening of the parenchyma around the venules of the brain, which appears in myelin preparations as a zone of demyelinization. Lumsden points out that he uses the term encephalomyelitis as descriptive of a lesion which causes exudation and proliferation. Nevertheless there is no evidence whatever of its being due to any bacterial or viral process.

[1] *Brain*, Volume 72, Part II, 1949.

It is, however, interesting that these lesions in their histology resemble, qualitatively at least, the encephalitides occurring after exanthems, which are of a consistent type quite apart from the particular exanthem which they may follow. Without our being committed to any hypothesis, therefore, it may be claimed that the lesion of human disseminated encephalomyelitis has been produced experimentally. Lumsden remarks that the original paralytic lesion observed occasionally after the Pasteur treatment for rabies bridges the gap between the animal experiment and the human post-exanthem lesion. With regard to the demonstration of antibodies and allergens the author is rightly cautious; as he points out, these may be demonstrable even when there is no lesion of the brain. He allows himself to speculate whether the post-exanthem encephalitides may not be due to some chemical substance produced by or in conjunction with the skin rash. In this connexion a junior nurse at the end of a lecture on measles and similar diseases once asked: "But why does the rash come out like that and does it come out in the other organs?", and the lecturer was forced to reply that he did not know. After all the mere fact that a disease is common, or that it may have certain well-known complications, does not mean that we know much about it.

SPONTANEOUS RUPTURE OF THE SPLEEN.

RUPTURE of the spleen may, of course, be one of the results of injury, and unless the numbers of road accidents are reduced this form of abdominal emergency will be seen from time to time. Apart from trauma there are other conditions which may predispose to a spontaneous rupture of the spleen; of these the most important is malaria. During the 1939-1945 war there were occasional opportunities of seeing patients with this complication, and although it is not now a perceptible danger to war veterans it is of interest and importance because of some points relating to its diagnosis and its pathology. Joseph M. Lubitz has collected information concerning four cases of rupture of the spleen associated with benign tertian malaria.[1] In these he has made a detailed report of the pathological findings, and has also reviewed the available descriptions in the literature. The essential changes found in acute vivax infections in man are the same as those found in animals the subjects of similar infections. There are three distinctive features in the cellular changes; these are phagocytic activity, degenerative changes, especially in the follicles, and proliferation and hyperplasia. As well as these, there is a destructive type of affection of the vascular system. The last-mentioned is important, for they cause not only engorgement of the veins and sinusoids, but also cellular aggregations lying in a matrix resembling a thrombus. There seems some doubt whether or not these masses actually protrude into the sinusoids, but their presence is a predisposing cause of subcapsular hæmorrhages. These, as Lubitz points out, are important, because they in turn predispose to the occurrence of rupture of the spleen. He regards the mechanism of rupture as being threefold, including phases of increased intrasplenic tension due to cellular hyperplasia and engorgement, compression by the abdominal muscles, and local lesions due to occlusion of blood vessels. It is of particular interest that subcapsular hæmorrhage was found in one of his patients, without rupture having taken place. The clinical history in this case also suggested the same happening. During the recent war subcapsular infarction and hæmorrhage were recognized in the Australian medical services as a definite syndrome, and were described as such. This is of practical importance, for in any condition in which spontaneous rupture of the spleen may occur premonitory signs and symptoms may warn a clinician on the lookout for them. Splenectomy, if it has to be performed for this dangerous condition, is preferably done before a sudden rupture of the capsule of the friable organ has produced a serious emergency. Another significant sign that is mentioned in this article is the demonstration of lack of resonance and enfeeblement of breath sounds at the base of the left lung. X rays may also show a loss of radiotransparency. Of the causes of spontaneous rupture of the spleen vivax malaria is by far the most frequent, but Lubitz quotes records of the Army Institute of Pathology as showing that it has also happened in infectious mononucleosis, Banti's disease, and leuchæmia, as well as in obscure circumstances, with or without torsion, but without demonstrated cause.

[1] *Blood*, October, 1949.

FURTHER STUDIES IN AUREOMYCIN.

THE role of pleuropneumonia-like organisms in causing infections in the human subject is a rather wide and indefinite one at present. These organisms have been of great interest for some years, and have been studied in experimental animals and man. Gold and streptomycin have been tried therapeutically with some success, though sulphonamides and penicillin have been disappointing. The greatest clinical interest in these bacterial forms probably lies in their possible association with non-specific urethritis and infective forms of arthritis.

Thomas McP. Brown, Ruth H. Wichelhausen, Lucille B. Robinson and William B. Merchant have published some observations on the effect of using aureomycin in various rheumatic diseases.[1] They studied patients with rheumatoid arthritis in whom the prostatic secretion had yielded pleuropneumonia-like organisms for over a year. Treatment with a gold preparation produced satisfactory clinical remissions of the joint affection, but the organisms could still be regularly cultivated from the prostatic secretion. Three months after the cessation of gold therapy the arthritis relapsed and aureomycin was given. In five patients observed remissions occurred, and no organisms could be obtained on culture. In a total of nine patients disappearance of the organisms from the genital tract was observed after treatment with aureomycin; three of the patients were men, the rest women, and in addition to those who suffered from rheumatoid arthritis two had *erythema nodosum*, and one rheumatic fever. One point of interest was observed in five patients treated for non-specific urethritis; although the cultures of the genital tract failed to reveal the organisms previously cultured, symptoms of discomfort sometimes persisted such as burning sensations. In a few cases the organisms returned, and were again banished by a course of aureomycin. Another series of 25 patients was observed with a variety of rheumatic diseases. In eight of the cases cultures from the genital tract revealed pleuropneumonia-like organisms. Seventeen of these patients showed subjective and objective improvement after a course of aureomycin, but no exact correlation could be made between the cultural and the clinical findings. It was found, however, that those patients who made least response had the lowest blood levels of aureomycin, and some who failed to improve with 1·0 gramme a day began to respond when this dose was raised to 2·0 grammes a day. The authors feel that the high incidence of favourable response to aureomycin is more than a coincidental finding.

This work leaves us in some uncertainty about the ætiological questions concerned. We are not here dealing with the treatment of a disease of clear-cut bacterial cause, and even the question of mutation of bacterial forms is not certain. The therapeutic test for ætiology which can be applied with some certainty in some diseases, for example in malaria and in amœbiasis, must be regarded with some caution here, especially with a disease like rheumatoid arthritis, whose putative cures range widely over the field of therapeutics. Nevertheless, it is of great interest that the oral administration of an antibiotic has produced the uniform disappearance of demonstrable organisms from the genital tract of persons with and without signs of joint disease. The coincidental improvement in the condition of the patients is even more interesting. Incidentally, the difficulty in treating non-specific urethritis, so much in evidence during the war, increases our interest in aureomycin.

[1] *The Journal of Laboratory and Clinical Medicine*, October, 1949.

Abstracts from Medical Literature.

DERMATOLOGY.

Tuberculosis Cutis Colliquativa.

J. GARB (*Archives of Dermatology and Syphilology*, September, 1948) states that three tuberculous ulcerations on a Negress failed to respond to six units of X rays filtered through one millimetre of aluminium. The ulcers healed in seven weeks after local applications of 5% "Promin" jelly and remained so for two and a half years. The good result was attributed to the bacteriostatic effect of "Promin" and to its slow diffusion in the tragacanth jelly base, which allowed continuous contact with the *Myobacterium tuberculosis*. Because of the rapid healing and the ease of application, the author recommends that "Promin" jelly be given a trial in cutaneous and other forms of accessible extrapulmonary tuberculosis before other agents, such as calciferol, with its attending danger of toxicity, are used.

Streptomycin Ointment for Sycosis Vulgaris.

H. M. Johnson (*Archives of Dermatology and Syphilology*, December, 1948) has treated a patient with refractory *sycosis vulgaris* by means of streptomycin ointment. The condition had been refractory to topical medication with various other agents. An ointment containing 1,000,000 units of streptomycin powder per ounce of "Carbowax 1540" was vigorously applied before and after shaving and again at bedtime. The author subsequently treated fifteen patients with *sycosis vulgaris*. Duration of infection varied from two weeks to nine months. Cultures from infected hairs contained *Staphylococcus aureus* and *Staphylococcus albus*. In twelve cases the results were good. No relapses were noted in three months. In two cases the patients had relapses after ceasing the streptomycin inunctions, but remained free from symptoms while using the ointments. No cases of sensitization were noted in this small series, but the possible epidermal sensitizing effects of the drug have been demonstrated.

Cutaneous Burns and Fluorescent Light.

R. R. BRESLER (*The Journal of the American Medical Association*, August 27, 1949) states that in a large manufacturing pharmaceutical organization, complaints were made of a mild type of cutaneous irritation occurring amongst five female operators in the penicillin filling room. Chief complaints were of redness, dryness and occasional itching of the skin, most prominent on the forearms, arms and exposed areas of the neck and upper part of the sternal region. Examination revealed erythematous areas, with dryness and some evidence of moderate desquamation. Questions revealed that these lesions were transient and that they disappeared over a week-end or when the operator worked in a different area for a day or two. The lesions occurred only in a particular room, and the affected operator could work on the same products in other locations without the occurrence of symptoms. For that reason contact dermatitis due to a particular drug sensitivity was immediately eliminated as a direct causative factor. The room where the exposure occurred was inspected and found to be air-conditioned and lighted by recessed shielded fluorescent ceiling fixtures. Ultra-violet light was also there from two ultra-violet sterilizing lamps, but these lamps were used only when no operators were in the room, so that they could not be directly causing the lesions. The ultra-violet lamps created a not inconsiderable quantity of ozone, so in case ozone was causing a skin sensitivity effect all ultra-violet equipment in the room was disconnected entirely for a period of two weeks. Cutaneous reactions persisted in spite of this. The author states that although he had never seen or heard of cutaneous burns from ordinary fluorescent tubes, the physical and clinical evidence pointed directly to such a condition. A plate-glass shield a quarter of an inch thick was constructed and installed about the offending tube in the vicinity of one of the two filling tables at which the affected operators worked. In two days the operators at the table with the shielded tube were free of any cutaneous reaction; those at the other table continued to display the same erythematous condition.

Pulmonary Fibrosis in Scleroderma.

J. E. M. WIGLEY, V. EDMUNDS AND R. BRADLEY (*The British Journal of Dermatology and Syphilis*, October, 1949) describe a case of pulmonary fibrosis occurring with scleroderma. They record it on account of its rarity and general interest, and to emphasize the fact that scleroderma is not a condition confined to the skin and subcutaneous tissues. In this case dyspnœa and not scleroderma was the presenting symptom and preceded the skin changes by more than two years. The authors state that a review of the literature published on the subject of pulmonary fibrosis in scleroderma only serves to emphasize the fact that not only the lungs but many other organs may be involved in the process. Scleroderma therefore is to be regarded not as a disease only of the skin, but as a widespread disease of the connective tissues throughout the body, in which the skin frequently shows the principal manifestations.

The Cold Wave Process.

M. H. COHEN (*Archives of Dermatology and Syphilology*, July, 1949) reviews the literature relating to the occurrence of dermatitis and other reactions following the application of the cold wave process. He quotes a statement that thioglycolic acid can cause severe allergic reactions in sensitive persons, and that, as with other allergens, the main impact is on the skin and mucous membranes; the effect is cumulative, and sufferers have remissions after contact with the acid has ceased. He states that Cappel and Cappel have reported the incidence of injurious effects observed from 30,000,000 or more applications of the cold wave process to be under 0·1%, but he considers that since the advent of the cold wave process that can be self-applied and the applications of strong sensitizing agents to many types of skin by the general public many more injuries than the estimated 0·1% must be produced; the danger of the cold wave process is lessened if it is applied by a licensed competent person. He states that the cold wave process should not be applied to allergic persons, to those suffering from anæmia or hepatic disease, or to any woman affected with chronic dermatosis or preceding irritation of the scalp.

H. T. BEHRMAN *et alii* (*The Journal of the American Medical Association*, August 13, 1949) report a study of the effects of certain cold wave lotions on 1200 volunteers. They state that the preparations used exhibit a low sensitizing potential and that cutaneous reactions from contact with or exposure to them are of negligible incidence. Clinical and laboratory tests produced no evidence of systemic toxic effects. They state that cold wave lotions of the composition set forth in their paper are safe for general use; but they emphasize that because the chemical reactivity of cold waving lotions is affected by the concentration of ammonia and ammonium thioglycolate, by the alkalinity and by the type and amount of the wetting agent used, the data reported cannot be applied to lotions containing ammonium thioglycolate with different concentrations of the adjuvants.

Podophyllotoxin.

M. SULLIVAN (*Archives of Dermatology and Syphilology*, July, 1949) states that resin of podophyllum topically applied to *condylomata acuminata* cures them. Resin of podophyllum, the resin of *Podophyllum peltatum*, is a complex resinous mixture of known and unknown substances. The identified components are as follows: podophyllotoxin, podophylloresin, quercetin and α-peltatum. *Condylomata acuminata* were treated with all the presently available components of resin. Podophyllotoxin was the only component capable of curing the genital warts. The author states that resin of podophyllum topically applied to skin and benign epithelial tumours produces severe cytotoxic effects and interference with mitosis, resulting in distorted mitotic pictures. Of the presently available components of the resin, podophyllotoxin is apparently the one principally responsible for the production of the abnormal cellular alterations.

Porphyria with Cutaneous Manifestations.

L. A. BRUNSTING AND H. L. MASON (*Archives of Dermatology and Syphilology*, July, 1949) describe porphyria as that rare familial metabolic fault in which abnormal kinds and amounts of porphyrins, especially uroporphyrin, are excreted in the urine and fæces; the disease may be latent or asymptomatic for years or for life, and the urine may or may not have an abnormal coloration. They state that although the chemistry and physiology of the porphyrins are complex, the performance of tests for urinary porphyrins is not beyond the range of most laboratory facilities. In the acute type of condition, intermittent episodes of serious gastro-intestinal or nervous and mental symptoms occur. The rare congenital type may begin in earliest childhood with symptoms such as redness of urine, erythrodontia, a hydroa-like mutilating eruption of the skin which is exposed to light, and sometimes visceral complications. There are also intermediate or chronic types

in which symptoms referable to the gastro-intestinal tract, the nervous system or the skin are milder. Symptoms of intermediate or chronic porphyria may be similar to those of either the acute or congenital type and usually occur in adults. The factors which may precipitate the syndrome of porphyria are little known. In certain cases a damaging influence on the liver appears, either from disease, such as cirrhosis, or from hepatoxic drugs or poisons (alcohol). In chronic porphyria, the disease may first become manifest in adult life, in the form of a bullous reaction of the skin which similates that in *epidermolysis bullosa*, in which the exposed surfaces are sensitive to light and to trauma. The authors give details of three cases and describe the methods of examination of the urine for porphyrins. The changes which occur in the skin of chronic porphyria are melanosis, hypertrichosis, milia and a chemical and physical alteration of the connective tissue, which renders the surface layers susceptible to trauma and gives rise to a blistering reaction to light. Photosensitivity is prominent in cases in which porphyrins are injected experimentally into the skin and in cases of congenital porphyria, but it is rarely a feature of so-called acute porphyria. In chronic porphyria milia occur in the areas of skin that have been affected by light. They represent invaginated sebaceous accretions.

UROLOGY.

Treatment of Hypospadias.

F. Z. HAVENS AND A. S. BLACK (*The Journal of Urology*, June, 1949) report on their methods and results in operations for hypospadias at the Mayo Clinic from 1943 to 1947. The ideal result is (i) that the patient can have satisfactory sexual intercourse, (ii) that he has a urethra of adequate calibre, without hairs or sacculation, and (iii) that the external meatus is at, or very near, the tip of the *glans penis*. The preference of the authors is to use the Edmunds operation for correction of the chordee, and later to follow the method of McIndoe and reconstruct all or most of the missing portion of the urethra by means of an inlying tubular skin graft. The value of the Edmunds operation is that ample skin is available for ventral closure, after all fibrous tissue has been removed. The free tubular graft provides a canal free from hairs and sacculation, and permits proper location of the external meatus, so that the "rifling" action of the urinary stream is obtained. In the correction of the chordee, all remnants of the urethral cord and of the *corpus spongiosum* must be removed. This is difficult because of the intimate attachment of this fibrous tissue to the *corpora cavernosa*. After the fibrous tissue has been exposed by a suitable incision, traction is made on the penis by a suture passed through the *glans penis*. This is combined with the pressure of a finger placed transversely under the *dorsum penis* to dorsiflex the organ and to make the ventral fibrous bands stand out prominently. This manœuvre at the same time controls a lot of the bleeding. In the Edmunds operation buttonholing of the prepuce is first performed; six weeks later the prepuce is divided in the mid-line and split open into two layers, and the two flaps are brought around to the under surface of the penis to provide a loose and full coverage of skin after the fibrous bands of *corpus spongiosum* remnants have been removed. The authors do not believe in the usually accepted idea of doing the final operation before puberty. They delay it till the sixteenth year. They think that before this age the penis is too small to permit insertion of a free tubular graft of adequate calibre. The channel for the graft is made by a trocar of such a size that the channel will admit a 22F catheter. Around the latter a moderately thick split-skin graft is wrapped and anchored by suture. After twelve to fourteen days the catheter is removed, and its place taken by a length of "Tygon" tubing, which is worn as an obturator for six months. After this, if the channel remains open to at least 14F calibre, the fistula between the proximal and distal channel is closed, the urine being diverted for ten days by means of a perineal urethrostomy. No such diversion is considered necessary for the previous stages of the operation.

Papillary Tumours of the Renal Pelvis and Ureter.

W. J. O'CONNOR (*The Journal of Urology*, March, 1949) states that the treatment of choice in dealing with papillary tumours arising primarily in the renal pelvis and ureter is complete nephro-ureterectomy. Incomplete ureterectomy is very often followed by recurrence, or subsequent tumour development in the ureteric stump, intramural portion of the ureter or bladder mucosa. Such secondary tumours are usually more extensive than the primary lesion, and are less amenable to destruction. Papillary tumours of the upper part of the urinary tract are often associated with stone and chronic infection. Microscopic study of many of the ureters removed suggests a widespread or diffuse metaplastic response to an apparent carcinogenic agent in the ureteric epithelium. In the light of these findings it seems that we are hardly justified in ever making the diagnosis of "benign" papillary tumour of the renal pelvis or ureter. To recommend local excision of ureteric tumours is definitely a step backward in treatment of the only neoplastic condition of the upper part of the urinary tract in which, by complete surgery, we have improved the end results and period of post-operative survival.

Associated Kidney and Bladder Tumours.

A. F. KAMINSKY (*The Journal of Urology*, June, 1949) states that the presence of any tumour in the urinary tract indicates the possibility of another tumour elsewhere in the tract. Therefore, in all such cases a thorough study of the entire tract is obligatory. For example, a case of hæmaturia should not be entirely explained by the simple discovery of a growth in the bladder; bilateral retrograde pyelograms are indicated in order to cover the diagnostic possibility. Prognosis in renal tumours is poor, and successful treatment depends on early recognition. One should, if possible, never wait long enough to allow the development of the old classical symptom-triad: pain, tumour mass and hæmaturia. Persistent unilateral hæmaturia, even in the absence of definite pyelographic changes, is an indication for nephrectomy if we are to find such tumours in an early enough stage to ensure cure. The possibility of multiple primary tumours should be kept in mind. The subsequent appearance of a tumour months or years after surgical removal of another neoplasm does not necessarily mean that a metastasis or implant was overlooked or had subsequently developed; another primary tumour may have arisen in the interval.

Total Cystectomy.

T. MILLIN AND F. MASINA (*British Journal of Urology*, June, 1949) state that the exact place of radical surgery in the treatment of carcinoma of the bladder has not yet been determined. That it has a place, few urological surgeons of experience will deny. With modern technique and ancillary aids the operation of extirpation of the bladder and its immediate lymphatic nodes carries no prohibitive mortality. It behoves us, however, to improve our methods of urinary deviation. The authors claim that the late results in their relatively small series of cases would appear to warrant some degree of optimism. The technique followed is a descending type with a purely abdominal approach. The two maxims of importance are (i) "shun the bladder" and (ii) "mid-line last". It should be the operator's aim to remain as far from the bladder as possible throughout the entire operation. The prostate and seminal vesicles are removed in one piece with the bladder, but whereas previously Millin favoured early section at the apex of the prostate, this stage is left till near the end of the operation. The removal of affected lymphatic glands on one or both pelvic walls should also be carried out—on both sides if the lesion is near or in the mid-line.

Study of External Urethral Sphincter.

H. C. ROLNICK AND F. K. ARNHEIM (*The Journal of Urology*, March, 1949) have made a histo-anatomical study of the external urethral sphincter in the male, with special reference to incontinence following prostatic surgery. The apex of the prostate gland is found to be enveloped by the external sphincter, which acts as a hammock for this part of the gland. In the normal patient, the average distance of the external sphincter from the verumontanum is 0·8 centimetre. With prostatic hypertrophy the length of the prostatic urethra proximal to the verumontanum is increased, but the distance between the verumontanum and the external sphincter remains unchanged. It is evident that since enucleation in the open operations is intracapsular, direct injury to the external sphincter is unlikely, for the sphincter surrounds the capsule, and is therefore outside it. The wedge effect of a catheter balloon or a gauze pad may distend the sphincter, and so injure it. Injury to nerves and muscles of the perineum is the chief cause of incontinence of urine following perineal prostatectomy. Thermal penetration in endoscopic resection is a large factor in the causation of incontinence after this procedure, even though the external sphincter has not been cut.

British Medical Association News.

ANNUAL MEETING.

THE annual meeting of the Victorian Branch of the British Medical Association and of the Medical Society of Victoria was held at the Medical Society Hall, Albert Street, East Melbourne, on December 7, 1949, DR. DOUGLAS J. THOMAS, the President, in the chair.

ELECTION OF OFFICE-BEARERS AND MEMBERS OF COUNCIL.

The Medical Secretary announced that the Council had elected the following office-bearers.

President: Dr. Robert Southby.
Vice-Presidents: Dr. Roy Watson, Dr. Charles Byrne.
Chairman of Council: Dr. H. C. Colville.
Honorary Treasurer: Dr. Douglas Thomas.
Honorary Secretary: Dr. Leonard Ball.
Honorary Librarian: Dr. H. Furnell.

The Medical Secretary announced that the following had been elected members of the Council by the general body of members: Dr. A. Brown, Dr. C. Byrne, Dr. J. Dale, Dr. H. G. Furnell, Dr. K. H. Hallam, Dr. V. Hurley, Dr. H. Maxwell James, Dr. L. W. Johnston, Dr. M. O. Kent Hughes, Dr. J. H. Lindell, Professor P. MacCallum, Major-General F. Kingsley Norris, Dr. B. K. Rank, Dr. R. Southby.

The Medical Secretary announced that the following had been elected members of the Council by the subdivisions: Dr. L. H. Ball, Dr. M. H. Box, Dr. D. D. Browne, Dr. D. A. Carter, Dr. B. D. Fethers, Dr. A. B. Hewitt, Dr. P. Goodman, Dr. J. G. Johnson, Dr. A. McCutcheon, Dr. D. G. Mackellar, Dr. L. A. Neal, Dr. M. L. Powell, Dr. J. J. Searby, Dr. W. A. Sloss, Dr. T. G. Swinburne, Dr. R. F. Watson, Dr. G. R. Weigall, Dr. L. J. Westacott.

The Medical Secretary announced that the ex-officio members of the Council were: Dr. H. C. Colville, Dr. F. L. Davies, Sir John Newman Morris, Dr. D. Roseby, Dr. D. J. Thomas (Trustees of the Medical Society of Victoria), Dr. J. P. Major (Director of the Australasian Medical Publishing Company, Limited).

The representative of the Victorian Medical Women's Society was Dr. Elizabeth McComas.

ANNUAL REPORT OF THE COUNCIL.

The annual report of the Council which had been circulated among members was received and adopted on the motion of Dr. H. C. Colville, seconded by Dr. Roy Watson. The report is as follows.

The Council of the Branch and the committee of the society present the seventieth annual report of the Branch and the ninety-fourth of the Society.

Election.

At the annual meeting held last December the following members of the Council and of the committee were elected: Dr. Arthur Brown, Dr. Charles Byrne, Dr. John Dale, Dr. John Gowland, Dr. H. G. Furnell, Dr. Victor Hurley, Dr. H. Maxwell James, Dr. Leonard W. Johnston, Dr. J. H. Lindell, Professor P. MacCallum, Major-General F. Kingsley Norris, Dr. K. Smith, Dr. Robert Southby and Dr. D. J. Thomas.

The following were elected to represent the subdivisions: Dr. L. Ball, Dr. M. H. Box, Dr. D. D. Brown, Dr. D. A. Carter, Dr. B. D. Fethers, Dr. P. Goodman, Dr. A. B. Hewitt, Dr. J. G. Johnson, Dr. A. B. McCutcheon, Dr. D. G. Mackellar, Dr. L. A. Neal, Dr. M. L. Powell, Dr. J. J. Searby, Dr. W. A. Sloss, Dr. G. Swinburne, Dr. R. F. Watson, Dr. G. R. Weigall and Dr. L. J. Westacott.

Under Rule 9 of the Branch, Council elected Dr. Elizabeth McComas, who was nominated by the Victorian Medical Women's Society.

The following are ex-officio members: the trustees of the Medical Society of Victoria, Dr. J. A. Cahill,[1] Dr. H. C. Colville, Dr. F. L. Davies, Sir John Newman Morris and Dr. D. Roseby, and the Director for Victoria of the Australasian Medical Publishing Company, Limited, Dr. J. P. Major.

The Council elected the following office-bearers: *President*, Dr. D. J. Thomas; *Vice-Presidents*, Dr. Robert Southby and Dr. Roy F. Watson; *Honorary Treasurer*, Dr. J. A. Cahill;[1] *Honorary Secretary*, Dr. Leonard Ball; *Honorary Librarian*, Dr. Douglas Thomas; *Chairman of Council*, Dr. H. C. Colville.

[1] Died during the year.

The executive consisted of the president, the immediate past president, Major-General F. Kingsley Norris, and other office-bearers.

Following the death of Dr. J. A. Cahill, Dr. D. J. Thomas was appointed honorary treasurer.

Attendances at Council Meetings.

Thirteen meetings of the Branch Council were held up to October 31, 1949, the following showing the attendances:

Dr. M. H. Box	13	Dr. E. McComas	9
Dr. C. Byrne	13	Dr. A. B. McCutcheon	9
Dr. H. C. Colville	13	Dr. D. D. Browne	8
Dr. R. Southby	13	Dr. H. M. James	8
Dr. G. Swinburne	13	Sir John Newman Morris	8
Dr. G. R. Weigall	13	Dr. J. A. Cahill[1]	7
Dr. K. Smith	12	Dr. J. P. Major	7
Dr. D. A. Carter	11	Dr. F. K. Norris	7
Dr. J. Dale	11	Dr. J. Gowland	6
Dr. F. L. Davies	11	Dr. M. L. Powell	6
Dr. H. G. Furnell	11	Dr. L. A. Neal	6
Dr. V. Hurley	11	Dr. P. Goodman	5
Dr. J. G. Johnson	11	Professor P. MacCallum	5
Dr. L. W. Johnston	11	Dr. A. B. Hewitt	4
Dr. D. Roseby	11	Dr. L. J. Westacott	4
Dr. D. J. Thomas	11	Dr. J. H. Lindell	3
Dr. R. F. Watson	11	Dr. W. A. Sloss	3
Dr. L. H. Ball	9	Dr. D. G. Mackellar	2
Dr. A. E. Brown	9	Dr. J. J. Searby	0
Dr. B. D. Fethers	9		

The highest attendance at any one meeting was 32, and the average attendance was 26.

Appointment of Subcommittees.

The following subcommittees were appointed by Council at the beginning of the year (the first-named acting as convener of the subcommittee):

Ethics.—Dr. Major, Dr. Davies, Sir John Newman Morris, Dr. Smith and the executive.

Finance, House and Library.—Dr. Cahill,[1] Major-General Norris, Dr. Smith and Dr. Thomas.

Legislative.—Dr. Dale, Dr. Colville, Dr. Davies, Dr. Gowland and Dr. Watson.

Organization.—Dr. Swinburne, Dr. Cahill,[1] Dr. Colville, Dr. Ball, Dr. Box, Dr. Brown, Dr. Byrne, Dr. Dale, Dr. Fethers, Dr. Furnell, Dr. Gowland, Dr. Hurley, Dr. J. G. Johnson, Dr. L. W. Johnston, Dr. McComas, Dr. McCutcheon, Dr. Neal, Dr. Roseby, Dr. Powell, Dr. Smith, Dr. Southby, Dr. Watson, Dr. Weigall and representatives of the country subdivisions.

Science.—Professor MacCallum, Dr. L. W. Johnston, Dr. Lindell, Major-General Norris, Dr. Powell and Dr. Watson.

Hospital.—Dr. Southby, Dr. Ball, Dr. Colville, Dr. Fethers, Dr. Hurley, Dr. James, Dr. Lindell, Dr. Neal, Dr. Smith, Dr. Watson and Dr. Weigall.

Correspondence.—Dr. Ball and Dr. Colville.

Workers' Compensation.—Dr. Ball, Dr. Byrne, Dr. Colville and Dr. Gowland.

Publicity.—Dr. Ball, Dr. Byrne, Dr. Swinburne, Dr. Thomas and the Medical Secretary.

Building Committee.—The President, Honorary Treasurer, Honorary Secretary and Dr. Coates.

The Rehabilitation Subcommittee was disbanded.

Appointments and Nominations.

Trustees of the Medical Society of Victoria.—Dr. J. A. Cahill,[1] Dr. H. C. Colville, Dr. F. L. Davies, Sir John Newman Morris and Dr. D. Roseby.

Central Council, British Medical Association.—Dr. J. H. Anderson.

Federal Council.—Dr. Charles Byrne, Dr. H. C. Colville and Dr. Victor Hurley.

British Medical Agency.—Directors: Dr. J. A. Cahill[1] (chairman), Major-General F. K. Norris, Dr. G. Robinson and Dr. C. H. Dickson. Manager: Mr. G. Feely.

British Medical Insurance Company of Victoria.—Directors: Sir John Newman Morris (chairman), Dr. J. A. Cahill,[1] Dr. Victor Hurley, Dr. W. W. S. Johnston, Dr. L. S. Latham, Major-General F. K. Norris. Following the death of Dr. J. A. Cahill, Dr. C. H. Dickson was appointed to the directorate. Secretary: Mr. J. M. Ford.

Victorian Correspondent, "The Medical Journal of Australia".—Dr. H. Boyd Graham.

Victorian Correspondent, "British Medical Journal".—Dr. H. Boyd Graham.

Victorian Bush Nursing Association.—Dr. E. McComas.

[1] Died during the year.

Hospital Benefits Association.—Dr. J. A. Cahill,[1] Dr. C. H. Dickson, Major-General F. K. Norris and Dr. D. Roseby. Following the death of Dr. J. A. Cahill, Dr. G. Raleigh Weigall was appointed.

Electoral Board, Medical Staffing of Base Hospitals.—Dr. J. P. Major and Major-General F. K. Norris.

Medical Eye Service of Victoria.—Dr. R. Stott.

Free Kindergarten Union.—Dr. H. Boyd Graham.

Victorian Baby Health Centres' Association.—Dr. M. L. Powell.

Melbourne University Union.—Graduates' Section: Dr. H. Douglas Stephens.

Victorian Institute of Hospital Almoners.—Sir John Newman Morris.

Lord Mayor's Fund.—Sir John Newman Morris.

Victorian Council for Mental Hygiene.—Dr. John Dale and Dr. G. R. Weigall.

Melbourne Permanent Post-Graduate Committee.—Professor P. MacCallum, Dr. J. P. Major and Dr. B. Milne Sutherland.

Medical Officers' Relief Fund (Federal).—Advisory Committee: Dr. J. A. Cahill,[1] Dr. F. L. Davies and Dr. W. G. D. Upjohn.

Federal Medical War Relief Fund.—Advisory Committee: Dr. J. A. Cahill,[1] Dr. F. L. Davies and Dr. W. G. D. Upjohn.

Legacy Fund.—Dr. J. A. Cahill,[1] Dr. A. E. Coates and Major-General F. K. Norris.

Australian Aerial Medical Service.—Sir John Newman Morris.

Nurses' Board.—Dr. J. W. Johnstone and Dr. W. W. S. Johnston.

Dietetic Association of Victoria.—Dr. John Dale.

Committee of Lord Mayor's Country Children's Holiday Camp.—Dr. T. L. Tyrer.

Society for Crippled Children.—Dr. H. Boyd Graham.

Anti-Cancer Council of Victoria.—Dr. Victor Hurley, Dr. J. E. Clarke and Dr. H. Searby.

Opticians' Registration Board.—Dr. T. a'B. Travers and Dr. F. G. Fenton.

National Safety Council of Australia.—Dr. John Gowland.

Masseurs' Registration Board.—Dr. C. H. Hembrow and Dr. F. May.

Joint Insurance Adjudication Committee.—Dr. L. H. Ball, Dr. D. Roseby and Dr. W. Upjohn.

National Committee of British Commonwealth Collection of Microorganisms.—Professor S. D. Rubbo.

Victorian Council of Speech Therapy.—Dr. R. Southby.

Committee on Industrial Accident Statistics (Standards Association of Australia).—Dr. John Gowland.

Annual Representative Meeting, British Medical Association, Harrogate, 1949.—Dr. G. T. James.

Medical Advisory Committee, Hospitals and Charities Commission.—Dr. McCutcheon and Dr. Southby.

Standards Association of Australia (Section of Protective Occupational Footwear, Clothing and "Eye" Protection).—Dr. H. Murray.

Branch Convocation.

The following were elected for the year 1949. *Melbourne Central*: Dr. G. P. O'Day, Dr. G. Springthorpe, Dr. H. Boyd Graham, Dr. J. G. Hayden, Dr. M. Tallent, Dr. C. H. Fitts, Dr. L. Lloyd Green, Dr. T. G. Millar, Dr. C. J. O. Brown, Dr. L. S. Latham, Dr. H. Phillips, Dr. E. E. Dunlop, Dr. G. Newman Morris. *South Suburban*: Dr. T. O. Sayle, Dr. H. F. Tucker, Dr. M. H. Mailer, Dr. C. Turner, Dr. L. Middleton, Dr. W. E. Spring. *Eastern Suburban*: Dr. G. W. Ashton, Dr. W. L. Carrington, Dr. W. E. Hewitt, Dr. H. G. Judkins, Dr. F. F. McMahon, Dr. R. H. Stevens, Dr. G. G. Watters, Dr. K. Hallam. *South-East Suburban*: Dr. John Adamson, Dr. V. C. Brown, Dr. C. H. Evans, Dr. G. W. Patterson, Dr. E. Kirsner, Dr. R. M. Shaw, Dr. J. K. D. McKenzie. *Northern Suburban*: Dr. S. L. Fredman, Dr. J. E. Dunn, Dr. K. Ratten, Dr. J. O'Keefe. *North-East Suburban*: Dr. M. Ashkanasy, Dr. N. T. H. Schafer. *Western Suburban*: Dr. L. Joel, Dr. J. E. Smith, Dr. L. Gurry. *South Central Suburban*: Dr. R. D. Aitchison, Dr. A. I. Green, Dr. Harley Grover, Dr. C. Worch, Dr. A. McQ. Thompson. *Ballarat*: Dr. G. T. James, Dr. E. Guymer. *Geelong*: Dr. R. L. Fulton, Dr. D. A. Kidd. *Bendigo*: Dr. P. R. Slater, Dr. A. E. Lincoln, Dr. J. W. Cook. *Goulburn*: Dr. R. O. Mills. *South-Western Country*: Dr. W. R. Angus, Dr. K. F. O'Donnell. *North-Eastern Country*: Dr. R. F. Phillips. *North-Western Country*: Dr. W. J. Flanagan. *Gippsland*: Dr. J. M. Andrew, Dr. B. L. Deans, Dr. H. M. L. Murray.

[1] Died during the year.

Membership Roll.

The number of members on the roll at November 8, 1949, was 2080, which is 28 more than last year. One hundred and forty-five members were added (78 by election, 9 members were reinstated by payment of arrears, and 58 were transferred from other States) and 117 names were removed (29 by death, 51 by transfer to other States, 22 by resignation, and 15 allowed their subscriptions to fall into arrears).

Honorary medical members number 25.

Death of the following members and former members is recorded with regret: Dr. J. Adamson, Dr. Alice M. Barber, Dr. I. Blaubaum, Dr. G. C. Burston, Dr. J. A. Cahill, Dr. H. R. Catford, Dr. R. S. Callender, Dr. A. I. Chapman, Dr. E. Clarke, Dr. F. S. Coombs, Dr. W. H. Corke, Dr. K. McK. Doig, Dr. H. S. Forrest, Dr. W. J. Forshaw, Dr. M. C. Gardner, Dr. C. G. Godfrey, Dr. C. A. Griffith, Dr. H. A. Hagen, Dr. W. A. Hailes, Dr. F. D. Jermyn, Dr. B. B. Jones, Dr. E. S. Joske, Dr. C. H. Mollison, Dr. F. Moreton, Sir Alan Newton, Dr. W. H. Orchard, Dr. R. A. Parker, Dr. J. E. Piper, Dr. W. L. Potter, Sir Sidney V. Sewell, Dr. R. H. Strong, Dr. D. L. Yoffa.

After the death of Dr. J. A. Cahill, the following special minute was recorded:

> That the Council of the Victorian Branch of the British Medical Association records with regret the death of John Austin Cahill, M.B., B.S., who was a member of the Council from 1930 until his death and whose appointments as president of the Branch in 1943, honorary treasurer in 1946 and a trustee of the Medical Society of Victoria in 1947 reflect the esteem in which he was held by his colleagues. Council extends its sympathy to Mrs. Cahill.

After the death of Dr. W. A. Hailes, the following special minute was recorded:

> The Council of the Victorian Branch of the British Medical Association records with regret the death of a former member of Council, William Allen Hailes, C.B.E., D.S.O., M.B., B.S., F.R.C.S., F.R.A.C.S., who, as a distinguished surgeon in civil practice, as a teacher of surgery, and as Director of Surgery of the Australian Military Forces in the years 1942-1945, rendered great service to the State, the public and his colleagues. The sympathy of Council is extended to his widow and daughters.

After the death of Dr. C. H. Mollison, the following special minute was recorded:

> That the Council of the Victorian Branch of the British Medical Association records with profound regret the death of Crawford Henry Mollison, M.B., Ch.B., M.R.C.S., on April 6, 1949, at the age of eighty-five years. As a practising pathologist and Government Pathologist, as a Lecturer in Forensic Medicine in the University of Melbourne, and as President of the Medical Board of Victoria, Dr. Mollison rendered distinguished public service, while his services to the medical profession as a member of the Branch Council, as a trustee of the Medical Society of Victoria and honorary treasurer for over fifty years, as chairman of directors of the British Medical Agency of Victoria and of the British Medical Insurance Company of Victoria will long be remembered. Council expresses its sympathy to Mrs. Mollison and to the children of Dr. Mollison.

After the death of Sir Alan Newton, the following special minute was recorded:

> That the Council of the Victorian Branch of the British Medical Association records with regret the death of Hibbert Alan Stephen Newton, Knight Bachelor, M.B., M.S., F.R.C.S., F.R.A.C.S., F.A.C.S., who, as a consulting surgeon, a teacher of surgery, a foundation member of the Royal Australasian College of Surgeons, a vice-president of the Victorian Branch of the British Medical Association and in many other public offices rendered distinguished services to the medical profession and the community. Council extends its sympathy to Lady Newton and her family.

After the death of Sir Sidney Sewell, the following special minute was recorded:

> The Council of the Victorian Branch of the British Medical Association records with regret the death of Sidney Valentine Sewell, Knight Bachelor, M.D., B.S., F.R.C.P., F.R.A.C.P., who, as a distinguished physician and teacher of medicine, rendered outstanding service to the people of Victoria, and whose work in arousing the public

conscience in reference to the tuberculosis problem will long be remembered. Council extends its sympathy to Lady Sewell and her family.

Congratulations.

During the year the Council had pleasure in conveying congratulations to Professor Arthur Amies on his being created a C.M.G.; to Professor Neil Hamilton Fairley on his being awarded the Moxon Medal; to Dr. George Cole on his appointment as Chief Health Officer for Victoria; and to Dr. Roy Watson on his appointment as Deputy Chairman of the Hospitals and Charities Commission.

The Stawell Memorial Prize.

Acting on the recommendation of the examiners, the trustees of the Stawell Memorial Prize did not award the prize for 1948.

Katherine Bishop Harman Prize.

On August 3 Dr. C. W. Swan was presented with the Katherine Bishop Harman Prize, awarded to him by the British Medical Association for his essay, "Rubella in Pregnancy as an Ætiological Factor in Congenital Malformation, Stillbirth, Miscarriage and Abortion".

Australasian Medical Congress.

The Seventh Session of the Australasian Medical Congress will be held in Brisbane from May 27 to June 3, 1950, and Dr. Robert Southby has been appointed a vice-president of congress, and Dr. Leonard Ball the honorary local secretary for Victoria.

Entertainment.

In March the Branch Council entertained the members of the Federal Council at luncheon in Melbourne.

The medical graduates of 1949 were entertained by the Branch Council at afternoon tea.

Gifts.

In appreciation of being allowed the use of the hall for undergraduate lectures, Professor Arthur Amies, on behalf of the Australian College of Dentistry, presented an electric clock.

Golf Tournament.

The tenth annual golf tournament of the Branch was held on December 1, 1948, at the Royal Melbourne Golf Club on its East Course at Cheltenham. The championship cup (The Weigall Cup) was won by Dr. E. A. Eddy.

The handicap cup (The Roseby Cup) was won by Dr. E. W. Field, and the spoon competition was won by Dr. I. Wilson and Dr. C. J. Officer Brown.

Meetings of the Branch.

The following Branch meetings were held in Melbourne:

February.—A symposium on sarcoidosis, the speakers being Dr. Bruce Robinson and Dr. Allan Pound, and the discussion being opened by Dr. Nancy Lewis, Dr. Heyworth Watson and Dr. Peter Davis.

March.—"An Assessment of Streptomycin", by Dr. D. B. Rosenthal and Dr. John Hayward.

April.—"The Doctor's Role in Industry", by Dr. John Gowland.

May.—"Some Technical Methods Used in Cardiology", by Dr. T. E. Lowe.

June.—"The Use of Anti-Coagulants", by Dr. W. McI. Rose and Dr. P. Fantl.

July.—"Developments in Clinical Pathology", by Dr. A. V. Jackson.

August.—"Genetics and Medicine", by Emeritus Professor W. E. Agar, O.B.E., M.A., D.Sc., F.R.S.

September.—"A Symposium on the Premature Infant", by Dr. Barbara Meredith, Dr. Kate Campbell and Dr. Donald Lawson, the discussion being opened by Dr. Stanley Williams.

October.—The sixteenth Sir Richard Stawell Oration, "For He Had Great Possessions", by Major-General F. Kingsley Norris, C.B.E., D.S.O., K.H.P., M.D., F.C.N.A.

November.—"A Regional Plan of Hospital Development", by Dr. J. Lindell, and a symposium on poliomyelitis by Dr. Stanley Williams, Dr. B. L. McCloskey, Dame Jean Macnamara and Dr. H. McLorinan.

The following clinical meetings and demonstrations were held:

May.—Royal Melbourne Hospital.
July.—Prince Henry's Hospital.
August.—Pathology Department, University of Melbourne.
October.—Victorian Eye and Ear Hospital.

The following country meetings were held, at which, in addition to clinical demonstrations, the following lectures were delivered:

May.—Bendigo: "Renal Function Tests in Clinical Practice", by Dr. T. E. Lowe.

June.—Horsham: "Recent Cardio-Respiratory Developments", by Dr. Clive Fitts.

November.—Mooroopna and Shepparton, in association with the Law Institute of Victoria. Dr. C. H. Dickson spoke on "Medico-Political Developments", and Mr. R. N. Vroland spoke on "The Legal Aspects of Artificial Insemination".

The Branch Council expresses its appreciation and thanks to the committees and honorary secretaries of subdivisions for the excellent arrangements made for the conduct of meetings, to the wives of members of the subdivisions for the kindnesses and hospitality to visiting members and their wives, and to the committees of base hospitals for the provision of facilities.

Council also expresses its appreciation and thanks to the staffs of the Royal Melbourne Hospital, Prince Henry's Hospital, Victorian Eye and Ear Hospital, and the Pathology Department of the University of Melbourne for arranging very successful clinical meetings and demonstrations during the year.

Special Meeting of the Branch.

On September 7 a special meeting of the Branch was called to consider the substitution of a new schedule of fees for the then present schedule to Rule 6. The new schedule was adopted without dissent, and becomes operative from January 1, 1950.

Business of Council.

As a consequence of the refusal of the overwhelming majority of doctors throughout Australia to cooperate in the working of the *Pharmaceutical Benefits Act*, 1947, because of the unacceptable conditions imposed by that legislation, the Act was amended during the year. The amendment compelled doctors, under penalty, to prescribe on government forms (unless requested not to do so by the patient) all prescriptions falling within the limits of the Commonwealth Pharmaceutical Formulary. The Act was then challenged in the High Court by the Federal Council of the British Medical Association in Australia, in association with certain members, and that section of the Act compelling doctors to use government prescription forms was held by the Court to be outside the powers of the Commonwealth Government as it imposed a form of civil conscription which the Constitution prohibits. The position therefore has reverted to that obtaining before the invalid amendments were made.

In October, 1948, the Commonwealth Minister of Health, Senator McKenna, informed representatives of the Federal Council that the Government proposed to legislate for a national health service controlled by the Director-General of Health, under which doctors would receive half their fees from the Government, provided they conformed fully to an established scale of fees; that clinical records of patients were available for inspection by medical officers of the Commonwealth Health Department, and that a great deal of clerical work associated with the scheme was undertaken by participating doctors. The Federal Council regarded the proposals as unacceptable because of the limitation of benefit to the patients of fully participating doctors, the violation of professional secrecy involved in disclosure of patients' affairs, and the burden of clerical work which would be imposed on participating doctors. It was submitted, as an alternative, to the Minister, that a scale of benefits and not a scale of fees should be established and that financial benefits should be paid to all patients who elected to claim them from the government funds, thus leaving the medical profession free of government control and direction. Those suggestions were rejected and the Minister, in a letter to the then Federal President, Sir Henry Newland, broke off negotiations. The *National Health Service Act* was then passed giving the Government, through the Director-General of Health, vast powers over medical, dental and nursing services in Australia, but, so far, no steps have been taken to carry out the provisions of the Act.

Realizing that the association throughout Australia would be faced with heavy expenditure for publicity, legal expenses *et cetera*, members were invited to contribute to the Federal Independence Fund, and in Victoria 1110 members subscribed £12,970 3s. 9d., and £1000 was subscribed by the Organization Fund of the Victorian Branch, making a total of £13,970 3s. 9d.

The Publicity Committee of the Branch Council, in cooperation with the Publicity Committee of the Federal Council, has been very active throughout the year.

A new Common Form of Lodge Agreement, negotiated with the Friendly Societies' Association of Victoria, came into operation on March 1, 1949, annual capitation fees being now 36s. in Melbourne, Ballarat, Bendigo and Geelong, and 44s. elsewhere in Victoria, provision being made for triennial variation of the capitation rate in accordance with fluctuations in the cost-of-living index figure.

After prolonged discussion with the Fire and Accident Underwriters' Association of Victoria, a new schedule of fees applicable to the treatment of "workers" coming within the provisions of the *Workers' Compensation Acts* was agreed upon and became operative on July 1, 1949. Under the agreement, fees have been increased by approximately 15% compared with those under the previously existing scale.

The Life Offices' Association of Australia, after negotiations with the Federal Council, has agreed to pay a fee of £1 11s. 6d. for life assurance examinations as from August 1, 1949.

Following representations, the Health Department agreed, during the year, to increase from 10s. to £1 1s. per film the fee to a doctor for taking and processing X-ray films at the request of the department.

Discussions are proceeding with representatives of the Medical Benefits Fund of New South Wales to extend the activities of the fund to Victoria.

When the issue of permits for the purchase of new motor-cars was discontinued by the Commonwealth Government, the motor trade asked that the association should continue to assist in the matter by supporting the applications of members for new vehicles, and throughout the year many such applications have been endorsed.

A deputation waited upon the Traffic Committee of the City Council in reference to the parking of medical cars, and requested that special areas be reserved for doctors' vehicles. It was then found that the City Council had no power to reserve space for any one section of the community, and representations have been made to the State Government requesting that the *Local Government Act* be amended to give powers of reservation to the municipal authorities. The outcome of the representations is not yet known.

The Branch is supporting by financial aid and clerical assistance the claim of the Repatriation Medical Officers' Association before the Public Service Arbitrator for an increase in salaries, and members of the Branch who have agreed to assist by acting as witnesses before the arbitrator are thanked.

Acting on the suggestion of a member of the Branch, the Editor of THE MEDICAL JOURNAL OF AUSTRALIA was asked to publish an epidemiological table for the Commonwealth, and for some months that table has now appeared week by week in the journal.

During the year, food parcels have been dispatched to British doctors, and the Women's Group of the Royal Empire Society is thanked for its assistance in packing and dispatching those parcels.

"Melmed" has been registered as the cable and telegraphic address of the Branch office.

Following the death of Dr. J. A. Cahill, the Branch Council unanimously nominated Dr. Douglas Thomas for appointment by the Governor-in-Council as a Trustee of the Medical Society of Victoria.

Arrangements have been completed with the authorities of Saint Paul's and Saint Patrick's Cathedrals for the holding of an annual service for members of the medical profession, and the first services will be held on February 12, 1950.

In the above, no reference has been made to the very large volume of business arising from the activities of the Federal Council which was considered by the Branch Council, the ultimate decisions concerning which will be found in the reports of the meetings of the Federal Council.

In addition, a great many matters were dealt with by the subcommittees and the executive of the Branch Council.

Federal Council.

The Federal Council met in Melbourne in March and in Sydney in July, and full reports of the proceedings of the meetings appeared in THE MEDICAL JOURNAL OF AUSTRALIA of April 16 and August 27, 1949.

Reports of Subdivisions.

Metropolitan.

Melbourne Central.—Office-bearers: President, Dr. A. E. Coates; Secretary, Dr. T. G. Swinburne.

One meeting was held during the year (on March 24) in the Medical Society Hall to discuss the National Health Service and the *Pharmaceutical Benefits Act*, 1947, and its 1949 amendment.

T. G. SWINBURNE,
Honorary Secretary.

Southern Suburban.—On April 12, 1949, a meeting of the subdivision was held to discuss the *National Health Service Act*. Dr. T. O. Sayle, the President of the subdivision, took the chair. Sixty members were present, and the meeting was addressed by Dr. C. H. Dickson. Following discussion, the following motion was passed (with two voting against it): "The members of the Southern Suburban Subdivision wholeheartedly support the Federal Council in their fight for freedom."

H. F. TUCKER,
Honorary Secretary.

Eastern Suburban.—Office-bearers: President, Dr. R. D. Bartram; Honorary Secretary, Dr. H. J. Hosking.

On May 6 a meeting was held at the Presbyterian Babies' Home, Camberwell, at which members of the medical staff spoke on the care of infants.

A medico-political meeting, held at the home of Dr. K. H. Hallam on July 29, was attended by sixty members. The members are in debt to Dr. C. H. Dickson for attending the meeting and for his lucid account of the current activities of the Federal Council.

HOWELL J. HOSKING,
Honorary Secretary.

Western Suburban.—Office-bearers: President, Dr. M. H. Box; Honorary Secretary, Dr. D. D. Coutts.

During the year, two clinical lectures were held at the Williamstown and District General Hospital. Dr. Norman Harry lectured on diseases of the thyreoid gland, and on June 29 Dr. John Hayward lectured on the present scope of thoracic surgery. These lectures were greatly appreciated by all present. After each lecture, supper was served by the matron and sisters of the hospital.

A meeting of members of the subdivision was held at the Mechanics' Institute, Footscray, on April 13 for the purpose of discussing the *Pharmaceutical Benefits Act* and *National Health Service Act*, and was addressed by Dr. Charles Byrne. The meeting was well attended, and carried a motion congratulating the Federal Council of the British Medical Association on its handling of negotiations in connexion with these Acts.

D. D. COUTTS,
Honorary Secretary.

South Central Suburban.—On April 4, 1949, a meeting was held for the annual election of office-bearers. Dr. R. P. Aitchison was reelected President, and Dr. J. G. Johnson was reelected Honorary Secretary. After the election there was a discussion of the *Pharmaceutical Benefits Act*. The sixteen members present reaffirmed their previous decision regarding the Act. Supper was served after the meeting.

On April 21, 1949, a meeting of the subdivision was held in the Albert Park Methodist Hall, 21 members being present. Dr. C. H. Dickson gave a report of the national health scheme in England, and then a résumè of the position regarding the *National Health Service Act* in Australia.

On July 29, 1949, a meeting was held in the Albert Park Methodist Hall to discuss the *Pharmaceutical Benefits Act* which had then been promulgated. Each member indicated his attitude towards the Act, one saying that he and his partner had started using the government forms, but all others had intentions of continuing to use their own prescription forms until the High Court announced its verdict. A motion, "That this subdivision express its appreciation of all that had been done by the Victorian and Federal Councils for the profession in connexion with the *Pharmaceutical Benefits Act* and the proposed national health scheme", was unanimously carried.

J. GAVIN JOHNSON,
Honorary Secretary.

Country.

Horsham.—A successful Branch meeting was held at the Wimmera Base Hospital in August, about 23 members being present and enjoying an informal dinner after the meeting. The wives of visiting members were entertained.

In September, Mr. J. B. Colquhoun gave a talk on poliomyelitis which was greatly appreciated and well attended.

On October 7 and 8 the Post-Graduate Committee held a refresher course at the Wimmera Base Hospital. An excellent contribution was Dr. K. Churches's talk on Cæsarian section.

Dr. Starr, of Edenhope, and Dr. Connard, of Rupanyup, were welcomed to the subdivision.

Goulburn.—Office-bearers: Chairman, Dr. R. O. Mills; Vice-Chairman, Dr. F. S. Coombs; Secretary, Dr. B. L. Schloeffel; Treasurer, Dr. A. F. Taylor; Members of Committee, Dr. W. A. Bossence and Dr. D. Lally.

During the year, three major functions were held under the auspices of the Melbourne Permanent Post-Graduate Committee. These were well attended from the professional and social aspects. Lectures were held alternately at Mooroopna Base Hospital and the "Grosvenor", Shepparton, and on the Sundays, members and their wives were entertained by the chairman and his wife at their home.

On October 23 and 24, 1948, the number present was 31, and apologies were 17. The lectures were: "Chemotherapy in Acute Infections of Children", by Dr. Stanley Williams; "Obstetrical Hæmorrhage", by Dr. R. M. Rowe; "Common Vascular Disorders of the Extremities", by Dr. S. F. Reid; "Dermatological Digest", by Dr. W. Lempriere. At the conclusion of the last lecture the annual general meeting of the Goulburn Subdivision was held. Office-bearers for the ensuing year were elected, and essential business was transacted.

On March 19 and 20, 1949, the number present was 29, and apologies were 18. The lectures were: "Minor Injuries of the Hand", by Dr. C. A. M. Renou; "The Latest Medico-Political Position", by Dr. C. H. Dickson; "Medical Emergencies", by Dr. L. Hurley; "The Management and Care of Hypertension", by Dr. J. L. Frew; "Some Lessons on Surgical Mistakes in the Abdomen", by Dr. A. E. Coates.

On June 18 and 19, 1949, the number present was 32. The lectures at this meeting were: "The Management of Persistent Urinary Infections", by Dr. J. B. Somerset; "Diagnosis and Treatment of the Common Anæmias", by Dr. W. McI. Rose; "Digest of Common Ear, Nose and Throat Conditions", by Dr. T. Millar; "What is Your Prescribing Problem?", by Dr. B. L. Stanton.

A meeting of the Victorian Branch of the British Medical Association at Shepparton on November 12, 1949, was combined with a meeting of the Law Society of Victoria for dinner and the evening lecture.

It is with sincere regret that the death is announced of Dr. F. S. Coombs, vice-president of the subdivision, on Sunday, October 9, 1949.

B. L. SCHLOEFFEL,
Honorary Secretary.

Geelong.—President, Dr. D. Carter; Vice-President, Dr. D. Reid; Honorary Secretary, Dr. M. W. Morris; membership, 54.

In addition to the quarterly meetings of the subdivision, three special meetings were held during the year. These were called to consider the *Pharmaceutical Benefits Act*, the private and intermediate bed position in Geelong, and the Hospital and Charities Commission, and there was a good average attendance.

A post-graduate week-end session, at which lectures were given by Dr. R. G. Worcester, Dr. J. L. Frew and Dr. Grayton Brown, was much enjoyed and well attended.

The members of the subdivision wish to express their sense of loss at the death of Dr. J. Piper, who was past president and an active and respected member of the subdivision.

MURRAY W. MORRIS,
Honorary Secretary.

Gippsland.—Office-bearers: President, Dr. J. M. Andrew; Honorary Secretary, Dr. D. I. Fitzpatrick.

A post-graduate week-end course at Sale, held on April 2 to 3, was attended by fourteen members, who greatly appreciated the course and the company of their six Melbourne colleagues with other visitors.

At Yallourn on July 30, after a clinical session at the hospital, Dr. Hembrow lectured on sciatica and brachial neuritis.

The annual meeting of the subdivision was attended by twelve members. All office-bearers were reelected.

D. I. FITZPATRICK,
Honorary Secretary.

South Western.—Office-bearers: Chairman, Dr. B. Rosse Woods; Honorary Secretary, Dr. W. R. Angus (appointed in January in place of Dr. Hetherington, who left the district).

In November, 1948, a week-end arranged by the Melbourne Permanent Post-Graduate Committee was held at Warrnambool. The syllabus included the following lectures: Dr. E. E. Dunlop, "Some Advances in Gastric and Œsophageal Surgery"; Dr. J. Frew, "Management of Thyreotoxicosis"; Mr. L. W. Gleadell, "Management of Backward Displacement of the Uterus"; Dr. Mostyn L. Powell, "Pædiatric Experience Abroad".

In January, 1949, there was a dinner and special meeting to bid farewell to Dr. Hetherington.

The February meeting was held at Port Fairy, where Dr. W. McI. Rose lectured on "Intravascular Thrombosis", and there was a discussion on the National Health Service.

In March, Dr. C. H. Dickson attended an extraordinary general meeting at Warrnambool and spoke on the *National Health Service Act*.

The May meeting was held at Koroit, where Dr. McKenzie, of the Department of Public Health, explained the anti-tuberculosis campaign.

A lecture entitled "Obstetrical and Gynæcological Emergencies" was given by Dr. Lawson.

The August meeting was held at Mortlake, where Dr. Clive Fitts gave a lecture, supported by X-ray films and lantern slides, on "Observations on Shortness of Breath and its Treatment".

Meetings were well attended throughout the year, and many interesting discussions took place.

W. R. ANGUS,
Honorary Secretary.

Bendigo.—Office-bearers: President, Dr. M. Jacobs; Vice-President, Dr. J. L. W. Sharland; Honorary Secretary and Treasurer, Dr. Warwick Rosenthal; Committee, Dr. E. Sandner, Dr. A. Newson, Dr. Harrington and Dr. I. Cleeve.

Four general meetings of the subdivision held during the year have been well attended. In May the Victorian Branch of the British Medical Association held a meeting in Bendigo, which was attended by over fifty members. The programme consisted of a clinical afternoon at the Bendigo Base Hospital and an evening lecture by Dr. T. E. Lowe entitled "Renal Function Tests in Clinical Practice".

During the meeting a dinner was attended by forty-two members. Several other social functions were held at the Bendigo Base Hospital, and the hospitality of local members was greatly appreciated.

It is proposed that a post-graduate week-end course be held in Bendigo during 1950.

WARWICK ROSENTHAL,
Honorary Secretary.

Reports of Section.

Clinical Pathology.—At the annual general meeting held on November 26, 1948, the following office-bearers and committee were elected: Chairman, Dr. Lucy Bryce; Honorary Secretary, Dr. J. W. Perry; Committee, Dr. H. Bettinger, Dr. J. D. Hicks, Dr. R. Watson and Dr. G. Harkness, who also acted as Honorary Treasurer.

At this meeting, Dr. Edgar North, of the Commonwealth Serum Laboratories, read a paper entitled "B.C.G. Vaccine", the discussion being opened by Dr. D. Rosenthal.

At the seventh general meeting held on Friday, April 22, 1949, Mr. J. W. Legge, of the Biochemistry Department, University of Melbourne, addressed the section on the subject of "Histology from the Viewpoint of the Biochemist".

On Friday, July 22, 1949, the eighth general meeting of the section was held, when Dr. Rachel Jacobowicz and Mr. A. Mathews presented two papers entitled, respectively, "Irregularities in Blood Grouping" and "Estimation of Penicillin in Body Fluids by an Agar Plate Method". The discussions on these papers were opened by Mr. Roy Simmons, of Commonwealth Serum Laboratories, and Mr. Glen Buckle, of the Alfred Hospital.

Meetings of committee. Three meetings of the committee have been held, at which the general subjects discussed were: (i) The intended curriculum of the Society of Laboratory Technicians of Australasia, and the ways and means in which members of this section could contribute to the training of laboratory technicians in this State. (ii) Nomenclature of blood cells. The report of the committee on the nomenclature of blood cells was discussed and three members of the committee were detailed to examine critically this report. (iii) The intention of the State Health Department to make facilities available for the examination of persons exposed to the lead hazard.

The committee would like to express its thanks to Professor P. MacCallum for his attendance, by invitation, at its meetings, and for his valuable advice.

The honorary secretary is grateful for the help rendered by the Branch office throughout the year.

J. W. PERRY,
Honorary Secretary.

Radiology.—At the first meeting for the year, Dr. Keith Hallam was elected President and Dr. Peter Davis was elected Treasurer.

The monthly meetings have been devoted to a series of lectures by members of the section and members of other sections.

A number of interstate visitors has been welcomed with pleasure to the section meetings.

The members of the section regret the departure of Dr. John Blewett, who has accepted an appointment in England.

Considerable time has been devoted to collaboration with the Melbourne Permanent Post-Graduate Committee and the Australian Institute of Radiography with a view to improving the facilities for the student radiologists and radiographers.

GWYNNE VILLIERS,
Honorary Secretary.

Ophthalmology.—The Ophthalmological Society of Australia (Victorian Section) celebrated its fiftieth anniversary this year, the Ophthalmological Society of Melbourne having been founded on February 22, 1899.

Three meetings were held during the year, all of which were well attended. Ordinary members number fifty-one.

J. MCBRIDE WHITE,
Honorary Secretary.

Ear, Nose and Throat.—Office-bearers: President, Dr. Heyworth Watson; Honorary Secretary, Dr. Eric Gutteridge.

Five meetings were held during the year, at which lecturettes were given by Dr. Edward Dunlop on the surgery of carcinoma of the œsophagus, Dr. H. M. Carey on the physiological and clinical aspects of hearing aids and audiometry, Dr. Roy Maynard, Dr. Rex Blaubaum and Dr. John Maynard on cancer of the lung, and Dr. Mark Ashkanasy on the conservative mastoid operation. Dr. J. J. Billings showed a series of medical cases of otological interest.

ERIC GUTTERIDGE,
Honorary Secretary.

Library of the Medical Society of Victoria.

During the year the library was well patronized, and an increasing number of members made use of the reference facilities, 2397 books and journals being borrowed. One hundred and forty-seven books were added to the collection and subscriptions were arranged to the "Current List of Medical Literature" (published by the United States Army Medical Library), "Modern Treatment Year Book", "Thorax", "Year Book of General Therapeutics", and "Year Book of Pathology and Clinical Pathology".

The work of compiling an up-to-date catalogue for members was completed during this period, and it is expected that publication will be made before the end of the year. It is confidently hoped that the new catalogue will stimulate interest in the library, particularly amongst country members, and lead to a greater realization of its resources.

The following are thanked for making available books and journals during the year: the Editor of THE MEDICAL JOURNAL OF AUSTRALIA, Dr. A. S. Anderson, Dr. W. M. Box, Dr. J. Hayden, Dr. M. Kelly, Dr. W. Upjohn, the United States Information Service, and Dr. F. W. Williams and those members who have assisted us by suggesting purchases and reviewing books. The British Medical Insurance Company has, as usual, made a helpful contribution to the library funds.

The Branch is fortunate in having the services of Miss Erck, who has been specially trained as a librarian, and her value to the members using the library is widely recognized.

DOUGLAS THOMAS,
Honorary Librarian.

On behalf of the Branch Council,
DOUGLAS THOMAS, President.
LEONARD H. BALL, Honorary Secretary.
C. H. DICKSON, Medical Secretary.

The year has been a particularly busy one, and has been characterized by publicity and medico-political activities on an unprecedented scale. The Council desires to record its appreciation of the loyalty and wholehearted cooperation of the office staff, upon whom was thrown an extra burden of work. The Medical Secretary has had an arduous year and Council is deeply appreciative of the splendid work done by him.

DOUGLAS THOMAS,
President.

Addendum.

The following reports are published on behalf of:

The Melbourne Permanent Post-Graduate Committee.

During the year the usual courses were arranged including those for higher degrees and diplomas, as well as the refresher courses in obstetrics and gynæcology, and that in general medicine and surgery.

In general, the numbers of those participating show a decrease compared with the peak years when so many medical officers were being demobilized, but it is clear that there will be a steady and increasing demand for post-graduate facilities arranged by the committee. It is gratifying to be able to record that the number of New Zealand graduates attending courses is constantly enlarging.

An additional course during this period was that in dermatology for general practitioners, arranged in conjunction with the Victorian Branch of the British Association of Dermatology and Syphilology. This comprised ten lecture-demonstrations spread over the month of March, 1949. There were eleven entrants and the comments on the course were highly encouraging.

Week-end courses in country centres are being extended. During the period under review, twelve such courses were held, the attendances and interest displayed being most satisfactory. Local practitioners have been warm in their appreciation of the work of the visiting lecturers, and the Post-Graduate Committee desires to express its deep thanks to these for their help in this way.

Advice from the committee is continually sought by graduates proceeding overseas for the purpose of further study and reading for higher degrees. During the past twelve months approximately twenty-seven medical practitioners have taken advantage of the committee's facilities in this regard. It is a pleasure to acknowledge the great assistance and willing cooperation extended to the committee and to the graduates travelling under its sponsorship by Sir Francis Fraser, Director of the British Post-Graduate Medical Federation. Arrangements made by him contribute greatly to satisfactory placing of post-graduates in the appropriate hospitals and courses of study.

An important event in February of this year was the visit of Professor L. S. P. Davidson, Professor of Clinical Medicine, University of Edinburgh. Owing to the short period of stay to which he was limited in Australia, Professor Davidson was able to give only two lectures in Melbourne, one on "Hæmatology" and one on "Rheumatoid Arthritis", but his personality and ability as a lecturer created a deep and lasting impression.

At the request of the Consultative Council, Poliomyelitis, Department of Health, the committee has undertaken to cooperate with the work of the Council by arranging for meetings of local practitioners in country centres, at which cases can be demonstrated and discussed by visiting specialists when on tour. Such arrangements have already been carried out with advantage at Hamilton and Horsham.

Several changes have taken place in the administrative staff of the committee. Dr. P. S. Woodruff has been on leave for the greater part of the year, working on tuberculosis in the United States of America under arrangement with the Rockefeller Foundation, and Dr. T. H. Steel has acted very efficiently in his stead. Dr. Donald Duffy has resumed as an assistant director on return from the United Kingdom, where he was working under the terms of a Nuffield Fellowship. The committee is greatly indebted to Mr. S. F. Reid, who acted for Dr. Duffy and who gave most valuable service during tenure of his position.

During the year the results of the formation of the Australian Post-Graduate Federation in Medicine in November, 1948, have become increasingly evident. Members of the Federation consist of the Post-Graduate Committees in each State. It is felt that such a body will effectively correlate the varying aspects of post-graduate medicine throughout Australia without in any way curtailing the individual responsibilities and activities of the State bodies, and will be of great value in dealing with organizations outside Australia. This applies with particular force to arrangements for overseas visiting lecturers. The executive is at present located in Sydney. At least two meetings of the Federation are held each year, at which matters of policy are discussed, the venue changing according to requirements.

The committee wishes to record its deep sense of loss in the death of Sir Alan Newton, who was an original member of the Committee and chairman from 1932 to 1935. His great ability and constructive powers were of the utmost value during the formative years of the committee.

W. W. S. JOHNSTON,
Director.

The British Medical Insurance Company of Victoria, Limited.

The annual report of the British Medical Insurance Company of Victoria, Limited, for the year ended April 30, 1949, states that the results of the year's operations (as disclosed in the profit and loss account) have not, in the opinion of the directors, been materially affected by any items of an abnormal character. Net profit for the year was £2808 4s. 10d.,

after providing £1300 for taxation. The appropriation account shows that £774 was allocated to the Medical Society of Victoria throughout the year. Up to date the company has given books to the value of £1985, and £9975 in cash to the Medical Society of Victoria, and more than £400 to various sub-branches of the British Medical Association and other institutions connected with the medical profession. It has also taken up debentures of the Medical Society to the value of £3750, upon which it is accepting interest at the rate of only 1% *per annum*, which, of course, saves the Medical Society a considerable sum in interest. The directors feel that members of the British Medical Association will be interested to know of the benefits that they have indirectly received through the activities of this company, and feel sure that the knowledge will strengthen the already solid support given by the profession.

J. NEWMAN MORRIS,
Chairman of Directors.

The British Medical Agency (Victoria) Proprietary, Limited.

During the year ended June 30, 1949, the British Medical Agency (Victoria) Proprietary, Limited, showed another 10% increase in its annual income, and a further sum of £500 was transferred to the Medical Society of Victoria, that sum making a total of £1600 earned for the society by the agency since it was reestablished in 1946. The most interesting transaction during the year was the exchange of a country and suburban practice. It is believed that this is the first time that such a transfer has been effected. *Locum tenentes* are still very difficult to obtain, particularly for country areas. There is an ever-increasing demand, and many doctors who would normally be acting as locums are now engaged in post-graduate study.

G. FEELY,
Manager and Secretary.

INSTALLATION OF THE PRESIDENT FOR 1950.

Dr. Douglas J. Thomas introduced the incoming President for 1950, Dr. Robert Southby, and installed him in the presidential chair. Dr. Southby thanked the members for his election.

PRESIDENT'S ADDRESS.

Dr. Douglas J. Thomas then read his retiring president's address (see page 137). Dr. Southby thanked Dr. Thomas for his address.

VOTES OF THANKS.

A vote of thanks to Dr. Kenneth Smith and Dr. John Gowland was carried on the motion of Sir John Newman Morris, seconded by Dr. H. C. Colville. A vote of thanks to the retiring President was carried on the motion of Sir John Newman Morris, seconded by Major-General F. Kingsley Norris.

SCIENTIFIC.

A MEETING of the New South Wales Branch of the British Medical Association was held at Broughton Hall Psychiatric Clinic, Leichhardt, New South Wales, on November 17, 1949. The meeting took the form of a series of clinical demonstrations arranged by the medical superintendent, DR. GUY LAWRANCE. Parts of this report appeared in the issues of January 7 and 28, 1950.

Obsessional States.

Dr. Lawrance then showed a series of patients to illustrate various obsessional states.

Compulsive Obsession with Depression.

The first patient, a male, aged twenty-two years, a statistician, had been admitted to the clinic on August 2, 1949. According to his history he had been lucky to have survived a difficult confinement. However, he proved to be a healthy child. At the age of sixteen years he had had manipulation for a spinal injury at Lewisham Hospital. He was an intelligent youth, and passed the Leaving Certificate in six subjects. He married at nineteen, his wife being the same age. Shooting was his chief pleasure. His present illness had the following history. For two years he had been troubled with doubts about his wife's virginity on marriage, yet he felt sure that she was a virgin. The couple had had many quarrels about the matter, the culmination being when he attempted to strangle his wife recently, making a serious attack on her. He wanted to kill the man, if anyone, who might have despoiled the wife prior to marriage, and he was seeking his address. He was convinced that someone had raped her. He felt that his wife's step-mother was against him, because she refused to speak to him. He said that she was queer. Another problem for him was the home. They lived in a garage, had one child, and were expecting another. He was worried, could not concentrate, was shaky in the legs, and had severe frontal headache. His attitude was that of a person preoccupied; he felt inferior, had been going to doctors for some time, and still felt weak. The urge to kill his wife was present, and his depression was natural for one in such a condition. He would have a course of pharmacodynamic therapy, carbon-dioxide gas with oxygen being used in his case. The patient's father was a policeman, and it was felt that he had lowered himself socially by his marriage. His parents had often run down his wife's qualities, and decried her virtue. Evidently the patient had been impressed against his own personal wishes.

Dr. Lawrance's comment was that the patient felt socially inadequate and unfit to mingle with others. He himself had had no sexual relations prior to marriage, and the thought of someone else having used his wife was intolerable to him. He had opposed his parents' wishes in the marriage, and falsified his age. The sudden impulses to harm his wife appeared, he could not control them, and he could not explain the reason for their existence, as he was very fond of his wife. His condition was one of reactive depression, with compulsive obsession. He was emotionally immature, and was disturbed by the parental objections to his marriage. His intelligence was high. On account of his known purity before marriage, and his ridiculous views about his wife's, there would appear to be an undisclosed factor in his early life which was not of a very clean nature, and which was repressed; an escape of the emotion attached to it was setting up the obsessive-compulsive idea. If that factor was strong, the prognosis was bad, and they would have to wait and see, because the results of treatment in obsessive psychoneuroses were very indifferent indeed.

Cancerophobia.

The next patient, a married man, aged twenty-nine years, a moulder, had been admitted to the clinic on August 23, 1949. He was referred because of anxiety with associated depression and lack of energy. His family consisted of a wife and two children. He complained of some soreness in his throat, but his throat was free of overt trouble, and he was well in all other ways. The family background was not strong. His father had died eight years earlier from cancer of the stomach. One sister had had a goitre, and a second had had a nervous breakdown. His wife compelled him to use the Malthusian method of *coitus interruptus*, and she avoided contacts as often as was possible; there were many arguments over this matter. It seemed that he was a rather heavy beer drinker, but a non-smoker. His mother was alive, and he was very attached to her. With regard to the present illness, the patient, who had always been a worrier, said that he had been very concerned for two years lest he had a cancer of his throat; he could not free himself from that fear; in spite of being informed to the contrary by several doctors, he still held the fear that he had cancer of that type. He complained of feeling sick in the stomach, and said that he had lost weight. He was afraid that pain in the throat and stomach indicated cancer, of which his father had died. He was depressed and anxious; he ate very well, but had insomnia. He complained that his wife was frigid, but suggested that the illness was caused when he was working at two jobs some time before. He was unduly introspective, and paid much attention to his bodily troubles. His concentration was not good otherwise, and he had been compelled to give up his work.

Dr. Lawrance pointed out that the patient was said to have been a poor scholar, and to have felt inferior as a boy. He was very interested and concerned in his father's illness, cancer of the stomach, and he was familiar with the symptoms of that condition. He drank a good deal—less of late—and had not behaved in such a way as to bring out the fullest cooperation from his wife, who, under the existing conditions, did not feel justified in having more family. He was as a result frustrated, and when an instinct was aroused and not allowed to proceed to its natural consummation, anxiety resulted. That, in his case, had expended itself in irritability, depression and lack of concentration in the diffuse sphere, and in the displaced portion it had selected the throat and stomach to be the sites of a disease he feared, namely, cancer; but it was fear of the cancer that was present, not recognition of cancer.

Treatment by dynamic methods was being used. Some psychotherapy was helping, and when the attack was over, a discussion with the patient and his wife together, with explanations of the precipitating causes of the illness, would probably clear up the whole matter. The anxiety factor was recognized as well as the obsessive idea, and he was being given a course of subcoma insulin therapy, to which he appeared to be responding favourably.

Obsession of Facial Hirsutism.

The third patient, an unmarried woman, aged twenty-four years, a clerk, had been admitted to the clinic on June 21, 1949. She was the youngest of three children; her mother had told her she had not been wanted, and her father had been consistently cruel to her. Her siblings gave her an unhappy time, and the parents often beat her unmercifully. She would be blamed for things she had not done, and when she went to work, the parents took all her pay. She was very intelligent, had won a scholarship at a business college, and had become a ticket writer. The menarche had occurred at the age of fourteen years, and she had dysmenorrhœa regularly. She had left home at the age of seventeen years, and the parents had failed to secure her again after action in the Children's Court. She was a virgin and had had one love affair with a school teacher, who wished to marry her. She was not anxious to marry because her father had been so cruel to her, and she feared that a husband might act in a similar way. She worried over those things. Recently she had become very irritable, and snapped at people. She developed frequency of micturition, and that made her wash her hands very often; then she constantly feared that there was soap on her face, and that that would cause hair to grow. She said that she had been putting soap on her face for years, and that hairs grew thickly on the parts. Her boy friend lived in the country, and she argued that she could not do tasks such as milking his cow or carrying water from a tank, because she was so worried about the facial hairs. She hated men, and loved the boy friend. She had bought some poison to take, but it was green, and she feared that she would vomit it up and be saved. She had bought some colourless poison, but she was menstruating at the time and did not drink it as she was unwilling to be found by her friends in such a blood-stained condition. She had a fairly fixed obsession that she had a heavy growth of facial hair, and she was so concerned about that that she had been unable to carry on her work; she had become self-absorbed and rather indifferent to her surroundings. She had had a course of electroconvulsive therapy, which had made her a little brighter, but the obsessive idea was strongly present, and her powers of fending for herself had not been regained. The comment was made that the patient had had a most abnormal childhood, and all the cruelties practised upon her were not known, but it was her mother who had told her that soap would cause hairs to grow. The conflict between her love of the *fiancé* and her fear of all men was severe, and she would probably never solve it. In addition, there must have been some incident of a guilty nature, or a thought which had been repressed and which was having its effect transferred to the fear of hairs on the face. Another strong course of electroconvulsive therapy would be given her, followed by psychotherapy of the shorter type, but obsessive states were notoriously difficult to eradicate, and the prognosis was not very hopeful.

Fear of Disease.

The last patient in the group with obsessional states was a single girl, aged twenty-two years, a clerk, who had been admitted to the clinic on September 13, 1949. She was the fifth of six siblings; her childhood had been happy; she liked school and had passed the intermediate examination in seven subjects. Menarche had occurred at the age of fifteen years, and that gave her a great shock, as she was ignorant of the matter and believed she had suffered a very serious happening. She had pneumonia and pleurisy at that time also, and appeared to connect the two happenings. After recovery from the pneumonia, she felt sure that she had a "bad heart"; then she was confident that her teeth were decayed, but the dentist denied this. Next she believed she had cancer, and at present was certain that she was tuberculous. She had left her office job recently because a man there had a nasty cough, hence the tuberculosis idea. She had left her home in the country because her brother was engaged to a girl who had some chest condition, and because of her fears she believed she could never marry. She had no boy friend, and preferred the company of girls. She had had some sexual experience with her brother, who, by her consent, at the age of fifteen years had tried all methods, but had failed ultimately to effect penetration, and she said that she supposed she was still a virgin.

Dr. Lawrance's comment was that the patient feared contamination from other persons, and feared all kinds of serious illness. Those fears prevented her working or going out to enjoy herself, and in short, reduced her to the condition she feared should illness occur. She had feelings of guilt and fear probably induced by the brother's unskilled efforts at coitus, but she regarded the incident as nothing at the present time. The energy of the emotion induced then was repressed and had escaped and attached itself to the disease idea (great fear at the menarche might be a basis of that), and she had come to fear all diseases. She had a strong mother-attachment and, owing to the fact that she was unaware that she had ever felt guilt or shame, it was going to be difficult to relieve her of the obsessive ideas. She was to have "Sodium Pentothal" narcosis and analysis as soon as possible.

Post-Graduate Work.

THE POST-GRADUATE COMMITTEE IN MEDICINE IN THE UNIVERSITY OF SYDNEY.

POST-GRADUATE MEDICAL FELLOWSHIPS.

WITH the object of promoting post-graduate medical teaching in New South Wales and of advancing the art and science of medicine, the Post-Graduate Committee in Medicine in the University of Sydney invites applications for two travelling fellowships from medical graduates who are engaged in teaching in the Faculty of Medicine or are members of the staff of a clinical school of the University of Sydney. The total amount of each fellowship will be £500 Australian currency; the duration must be of not less than six months. Applications should be made by May 2, 1950, on the special form to be obtained from the Honorary Director, the Post-Graduate Committee in Medicine, 131 Macquarie Street, Sydney.

DIAGNOSTIC AND THERAPEUTIC RADIOLOGY.

The Post-Graduate Committee in Medicine in the University of Sydney announces that courses for the diplomas in diagnostic and therapeutic radiology will begin on March 20, 1950. Arrangements can be made for candidates to be allocated over the full twelve months' period to the radiological departments of hospitals approved as fully recognized or supplementary for the purposes of these diplomas. Attendance is required full time over twelve months unless candidates have already obtained the required experience.

The fee for attendance at each course is £52 10s., payable at the enrolment date. Further information may be obtained on application to the Course Secretary, the Post-Graduate Committee in Medicine, 131 Macquarie Street, Sydney. Telephones: BU 5238, BW 7483. Telegraphic address: "Post-grad, Sydney."

THE MELBOURNE PERMANENT POST-GRADUATE COMMITTEE.

PROGRAMME FOR MARCH.

Classes for Higher Degrees and Diplomas.

THE following classes suitable for candidates for higher degrees and diplomas will commence on Wednesday, March 15, 1950 (anatomy on March 20), and will continue till July or August: Mondays and Wednesdays—1.45 p.m., pathology; 2.45 p.m., pathology (practical); 2 p.m., anatomy; 3.45 p.m., physiology. Thursdays—4 p.m., physics.

These classes are suitable for candidates for Part I of the M.D., M.S., D.O., D.L.O., D.D.R., D.T.R.E., D.P.M., D.G.O. and D.A. The first half of the pathology course is suitable for candidates for Part II of various diplomas and the M.S., and will be supplemented where required by special lectures and demonstrations suitable for candidates for the degree or diploma concerned. Classes will be held if there are sufficient enrolments for the degree or diploma concerned. The fees will be £31 10s. (total) for courses for Part I of a diploma, and £15 15s. for each subject taken separately.

M.D.II-M.R.A.C.P.

A course in neurology suitable for candidates for the M.D. Part II and M.R.A.C.P., under the direction of Dr. E. Graeme Robertson, will be conducted at 3 p.m. on Tuesdays, March 14, 21 and 28, 1950, at the lecture theatre, Royal Melbourne Hospital, and at 2 p.m. on Thursdays, March 16, 23 and 30, 1950, at the Alfred Hospital. The fee for this course is £3 3s. or 10s. 6d. per lecture.

Country Courses.

Geelong.

The following lectures will be given at Geelong on Saturday, March 4, 1950: 2 p.m., Dr. R. Officer, "Obstruction Lesions of the Alimentary Tract"; Dr. Leslie Hurley, "Thyreotoxicosis"; 8 p.m., Dr. L. W. Gleadell, "Pruritus". The fee will be £1 11s. 6d., or 10s. 6d. per lecture. Enrolments should be made with Dr. M. W. Morris, 348 Ryrie Street, Geelong. Telephone: 4567.

Flinders Naval Depot.

At 2.30 p.m. on Wednesday, March 8, 1950, at Flinders Naval Depot, Dr. Ian Wood will conduct a demonstration under the title "Modern Ideas in the Diagnosis and Treatment of Gastro-Intestinal Diseases". This is being held by arrangement with the Royal Australian Navy.

Mooroopna.

The following lectures will be given at Mooroopna on March 25 and 26, 1950: Saturday, March 25—2.30 p.m., Dr. R. Officer, "Obstruction Lesions of the Alimentary Tract"; 8 p.m., Dr. J. E. Sewell, "The Treatment of Some Common Medical Disorders". Sunday, March 26—10 a.m., Dr. John Colebatch, (i) "Hypoproteinæmia in General Practice", (ii) "A Simplified Plan of Infant Feeding"; 2 p.m., Dr. C. K. Churches, "Disproportion and its Sequelæ". The fee will be £2 2s. for the course or 10s. 6d. per demonstration. Enrolments should be made with Dr. B. R. Schloeffel, Maud Street, Shepparton. Telephone: 67.

Enrolments.

Enrolments for all courses, other than country courses, should be made at least two weeks before the commencement of the course with the Secretary of the Post-Graduate Committee, 426 Albert Street, East Melbourne. Telephone: JM 1547.

SEMINARS AT ROYAL PRINCE ALFRED HOSPITAL.

THE following seminars will be held at Royal Prince Alfred Hospital, Camperdown, New South Wales, during the first half of 1950. Each seminar is held on Friday from 1.15 to 2.15 p.m. and is followed by a clinico-pathological demonstration in the post-mortem room from 2.30 to 3.30 p.m., staff rounds from 3.30 to 4.15 p.m., and grand rounds (clinical) from 4.15 to 5.30 p.m. All medical graduates are invited to attend.

February 3: Cardio-vascular Section, "Advances in Cardiology in 1949" (Dr. J. Halliday).
February 10: Endocrinology and Metabolism Section, Diabetic Clinic—review of papers presented at the annual meeting of the American Diabetic Association.
February 17: Hæmatology Section, "Radiological Changes in Bone Associated with Blood Disorders".
February 24: Pædiatrics Section, "Fat Intolerance in Infants—Cœliac Disease".
March 3: Gastro-enterology Section, "The Dumping Syndrome".
March 10: Neurology Section, "The Classification and Management of Head Injuries".
March 17: Thoracic Section, "The Place of Radiotherapy in the Treatment of Bronchogenic Carcinoma".
March 24: Clinico-pathological conference.
March 31: Cardio-vascular Section, "The Practical Value of Routine Unipolar Leads".
April 14: Endocrinology and Metabolism Section, "Metabolic Aspects of Arthritic Disease".
April 21: Hæmatology Section, "The Leucopenias".
April 28: Gastro-enterology Section, "Regional Ileitis (Crohn's Disease)".
May 5: Neurology Section, "Modern Views on the Guillain-Barré Syndrome".
May 12: Thoracic Section, "Pneumoperitoneum in the Treatment of Pulmonary Tuberculosis".
May 19: Cardio-vascular Section, "Ætiological Aspects of Hypertension" (Dr. R. Blacket).
June 9: Endocrinology and Metabolism Section, "Pheochromocytoma".
June 16: Hæmatology Section, "Gastro-enterological Features in Hæmatology".
June 23: Pædiatrics Section, "Poliomyelitis" (Professor Lorimer Dods).
June 30: Gastro-enterology Section, "The Problem of the Persistent Duodenal Ulcer".

Obituary.

MARIE BROWN.

WE are indebted to Dr. Helen Mayo for the following appreciation of the late Dr. Marie Brown.

Marie Brown died on November 21, 1949, after a short illness following a long period of ill health. She was an Englishwoman, born in Nottingham on June 21, 1883, the daughter of Arthur Simpson, lecturer in physics in Nottingham University College. Both parents were intellectually endowed, and after Marie's school days at the

Nottingham High School and School of Art, they suggested art as a career for her. Marie, however, felt a call to medicine as a vocation, and after a successful course at the Royal Free Medical School in London she graduated M.B., B.S. in 1907. Her medical experience following qualification was unusual in comparison with that of the young Australian graduate. She worked as *locum tenens* in colliery practices and held appointments as house surgeon in the Victoria Jewish Hospital, Manchester, and the Worksop Hospital. She was also medical officer in the Worksop Infirmary and later school medical officer at Liverpool. During her time at Worksop she obtained the diploma in public health at Sheffield. Her course was thus set for medical practice with a strong emphasis on public health—which she always retained.

While in Liverpool she first met Gilbert Brown, who shortly afterwards came to Australia and cabled to her proposing marriage. So began the second geographical era of her life. She arrived in Adelaide on November 13, 1914, after braving the *Emden* successfully, and was married to Gilbert Brown the same day. At that time he was in

practice at Snowtown and there Marie joined him in practice, thus seeing a new side of life and one of much interest to her. This went on until Gilbert went into camp and overseas, when Marie came to Adelaide and undertook anæsthetic practice. Their son was born in 1917. On her husband's return they took up practice in Walkerville, where they remained until her retirement in 1946.

On coming to Adelaide, Marie entered into the work of the Mothers and Babies' Health Association and became a valuable and trusted member of this truly public health organization. For twenty-five years she took a prominent part in lecturing, broadcasting and writing. As a lecturer she was clear, concise and arresting; it was a pleasure to hear her exposition of a subject, and her lectures were greatly appreciated. Her writing, too, was excellent, her theses being well reasoned and well put; indeed she was *proxime accessit* in an Australia-wide competition on maternal mortality and morbidity, organized by the Melbourne Permanent Post-Graduate Committee in 1924, her monograph, comprehensive and knowledgeable, being recognized as excellent. A résumé of this was printed in THE MEDICAL JOURNAL OF AUSTRALIA of September 17, 1925.

Her work at the Mothers and Babies' Health Association as committee member, as deputy chief medical officer, as co-editor of "The Australian Mothercraft Book" published by the Mothers and Babies' Health Association, and as helper and adviser in general was beyond all praise. She took part in the work of the Kindergarten Union, giving lectures at various times. She was a foundation member of the Medical Women's Association and took an active part in its reorganization. At a meeting of the association recently, members expressed their sorrow at her death.

Besides all these things that she did she was an active worker in the Red Cross during the last war. She gave lectures on first aid and on the principles of home nursing. Finding that the official Saint John Ambulance book on hygiene was unsuited to Australian conditions, she rewrote it entirely, and in this form it was extensively used in South Australia. She also undertook to give lectures to the women's services on sex, and her clear sensible advice must have meant much to these girls.

Marie was a person of decided views, deep sympathies and strong character; she had an intense interest in all affairs relating to women and children; she read widely, talked well, had a keen artistic sense and was a most capable housewife. Her advice was often sought on matters other than medical. Her honesty and integrity were recognized by all who knew her. She had many friends who miss her interest, her affection and her sage counsel. She leaves a husband, a son and two grandchildren.

LESLIE SCOTT LATHAM.

WE regret to announce the death of Dr. Leslie Scott Latham, which occurred on January 21, 1950, at Kew.

CYRIL CHARLES MINTY.

WE regret to announce the death of Dr. Cyril Charles Minty, which occurred on January 23, 1950, at Melbourne.

Correspondence.

SYPHILIS RESURGENS.

SIR: It was with great interest and satisfaction that I read in THE MEDICAL JOURNAL OF AUSTRALIA Professor Engel's comments on my paper "Syphilis Resurgens". Since then I have had the privilege of meeting Professor Engel and of discussing the problems surrounding the new and imminent threat to Australia by this recrudescence of syphilis in our community. We must look not merely to

DISEASES NOTIFIED IN EACH STATE AND TERRITORY OF AUSTRALIA FOR THE WEEK ENDED JANUARY 14, 1950.[1]

Disease.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Northern Territory.[2]	Australian Capital Territory.	Australia.[3]
Ankylostomiasis	*	..	..	..	3	..	..	..	3
Anthrax	*	..	..	..	..	..	..	..	..
Beriberi	*	*	*	*	*	*	..	*	..
Bilharziasis	*	..	..	..	..	..	..	..	..
Cerebro-spinal Meningitis	..	1	1	1(1)	..	1(1)	..	..	4
Cholera	..	..	..	..	..	..	..	..	..
Coastal Fever(*a*)	*	*	..	*	*	*	*	*	..
Dengue	*	*	*	*	*	*	..	*	..
Diarrhœa (Infantile)	..	..	4(3)	..	..	..	..	..	4
Diphtheria	6(2)	3(2)	8(5)	..	4(3)	..	..	..	21
Dysentery (Amœbic)	*	..	..	..	3	..	..	..	3
Dysentery (Bacillary)	*	2(2)	6(6)	..	..	..	..	..	8
Encephalitis Lethargica	..	..	..	..	1	..	..	..	1
Erysipelas	*	*	*	1(1)	*	*	..	..	1
Filariasis	*	..	..	..	..	..	..	..	..
Helminthiasis	*	..	*	*	*	*	*	*	..
Hydatid	*	..	*	*	*	*	*	..	..
Influenza	*	*	*	..	*	*	..	*	..
Lead Poisoning	*	*	..	*	*	*	*	*	..
Leprosy	..	..	..	..	..	..	..	..	..
Malaria(*b*)	*	..	..	..	..	..	..	..	..
Measles	*	*	*	18(5)	*	*	..	..	18
Plague	..	..	..	..	..	..	..	..	..
Poliomyelitis	15(9)	14(4)	1	36(32)	..	3	..	..	69
Psittacosis	*	..	*	..	*	*	*	*	..
Puerperal Fever	..	..	..	2(2)	..	..	..	..	2
Rubella(*c*)	*	*	2	*	..	2	..	..	4
Scarlet Fever	16(11)	17(10)	5(3)	8(2)	2(2)	..	..	..	48
Smallpox	..	..	..	..	..	..	..	..	..
Tetanus	*	..	..	*	*	*	*	*	..
Trachoma	*	..	*	*	*	*	*	*	..
Tuberculosis(*d*)	29(26)	18(14)	8(7)	3(3)	15(12)	1	..	..	74
Typhoid Fever(*e*)	..	..	..	..	..	..	..	..	..
Typhus (Endemic)(*f*)	..	..	5	..	1(1)	..	..	..	6
Undulant Fever	..	1	1	..	..	..	..	..	2
Weil's Disease(*g*)	*	*	..	*	*	*	*	*	..
Whooping Cough	*	*	*	29(16)	*	*	..	..	29
Yellow Fever	..	..	..	..	..	..	..	..	..

[1] The form of this table is taken from the *Official Year Book of the Commonwealth of Australia*, Number 37, 1946-1947. Figures in parentheses are those for the metropolitan area.
[2] Figures not available.
[3] Figures incomplete owing to absence of returns from the Northern Territory.
* Not notifiable.
(*a*) Includes Mossman and Sarina fevers. (*b*) Mainly relapses among servicemen infected overseas. (*c*) Notifiable disease in Queensland in females aged over fourteen years. (*d*) Includes all forms. (*e*) Includes enteric fever, paratyphoid fevers and other Salmonella infections. (*f*) Includes scrub, murine and tick typhus. (*g*) Includes leptospiroses, Weil's and para-Weil's disease.

the immediate increase in the number of infective persons, but to the succeeding years when inefficiently or insufficiently treated early cases will have become established infections, more and more difficult to eradicate each year they persist. In the period one year to twelve years hence will come cardio-vascular manifestations (aortitis, aneurysm, cardio-vascular disease of the central nervous system) and a few years later still the horrors of *tabes dorsalis* and of general paralysis of the insane.

Few people, even among the medical profession, realize even a fraction of the gravity of this threat to the physical and mental health of the people of Australia. Without decrying the importance of the anti-tuberculosis campaign, I want to point out that humanity by a process of natural selection is being steadily purged of stock susceptible to tuberculosis, and has indeed during the past fifty years gone far along the road to practical elimination of the very susceptible section of the European race at least.

Probably the same is occurring with syphilis, but natural selection has at most gone only a little way along the road as compared with the distance it has travelled in the case of tuberculosis. In the case of leprosy, for example, it has travelled almost the whole distance.

But to a far greater degree than in the case of tuberculosis, syphilis is amenable to treatment, even to the stage of elimination if attacked in the early stages. The earlier diagnosis is established, the better the prospect of complete cure and reduction of sources of infection. The diagnosis should be possible before the serum reaction is positive. This, however, requires special training in immediate microscopic search for treponemata. This is the job of the dermatologist, though the serum reaction requires the help of the pathologist and serologist. The recognition of early lesions and immediate treatment are superlatively important. Therefore the dermatologist and pathologist are the first two of the team to be selected. Next the internist is required if the very damaging cardio-vascular lesions are to be detected as early as possible. Therefore, the internist and cardiologist are next in the team. The tragic late manifestations of tabes and general paralysis require strong representation of the psychiatrists. Public health officers should be included, but not in such large numbers as to overshadow even one of the previously mentioned specialties.

It will now be seen that I am asking for a symposium to discuss very thoroughly the steps to be taken to combat this very urgent matter. Whether this conference should be called by the College of Physicians or some other body, whether the meeting should be assembled in Sydney, Melbourne or Canberra, I leave to the College and to the Health Department. But let it be soon.

I ask, however, for wide representation, from each State if possible, but certainly from Sydney and Melbourne, of the specialties I have mentioned. Also let us take care to invite the help of several European experts we have available at present in Australia. But please let us lose no time by awaiting their presence before commencing inquiries.

Yours, etc.,

E. H. MOLESWORTH.

235 Macquarie Street,
Sydney,
January 13, 1950.

Nominations and Elections.

THE undermentioned have applied for election as members of the New South Wales Branch of the British Medical Association:

Alexander, Ruth Marie, provisional registration, 1949 (Univ. Sydney), Lithgow Hospital, Lithgow, New South Wales.

Rogers, Norman James, M.B., B.S., 1947 (Univ. Sydney), 65 The Boulevarde, Strathfield.

Davies, Oswald Joseph, M.B., B.S., 1948 (Univ. Sydney), St. Joseph's Hospital, Auburn.

Andrew, Margaret Lark, M.B., B.S., 1947 (Univ. Sydney), 78 Kuring-gai Avenue, Turramurra.

Pettitt, Gordon Charles, M.B., B.S., 1948 (Univ. Sydney), Prince Henry Hospital, Little Bay.

Thompson, Janet Fraser, provisional registration, 1949 (Univ. Sydney), Cessnock District Hospital, Cessnock.

Wolfers, David, provisional registration, 1949 (Univ. Sydney), Albury District Hospital, Albury.

Lisyak, John, provisional registration, 1949 (Univ. Sydney), Parramatta Hospital, Parramatta.

Powrie, Neville John Desmond, provisional registration, 1949 (Univ. Sydney), Maitland Hospital, Maitland.

Adler, Leslie, provisional registration, 1949 (Univ. Sydney), 14 Balfour Road, Rose Bay.

The undermentioned have applied for election as members of the Tasmanian Branch of the British Medical Association:

McGrath, John Vincent, M.B., B.S., 1941 (Univ. Melbourne), 2 Jones Street, Burnie, Tasmania.

Roche, Mark Francis, M.B., B.S., 1949 (Univ. Melbourne), Royal Hobart Hospital, Hobart.

Mason, John Herbert, M.B., B.S., 1948 (Univ. Sydney), Royal Hobart Hospital, Hobart.

Diary for the Month.

FEB. 7.—New South Wales Branch, B.M.A.: Organization and Science Committee.
FEB. 10.—Queensland Branch, B.M.A.: Council Meeting.
FEB. 13.—Victorian Branch, B.M.A.: Finance, House and Library Subcommittee.
FEB. 14.—New South Wales Branch, B.M.A.: Executive and Finance Committee.
FEB. 16.—Victorian Branch, B.M.A.: Executive Meeting.
FEB. 21.—New South Wales Branch, B.M.A.: Medical Politics Committee.

Medical Appointments: Important Notice.

MEDICAL PRACTITIONERS are requested not to apply for any appointment mentioned below without having first communicated with the Honorary Secretary of the Branch concerned, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

New South Wales Branch (Honorary Secretary, 135 Macquarie Street, Sydney): Ashfield and District United Friendly Societies' Dispensary; Balmain United Friendly Societies' Dispensary; Leichhardt and Petersham United Friendly Societies' Dispensary; Manchester Unity Medical and Dispensing Institute, Oxford Street, Sydney; North Sydney Friendly Societies' Dispensary Limited; People's Prudential Assurance Company Limited; Phœnix Mutual Provident Society.

Victorian Branch (Honorary Secretary, Medical Society Hall, East Melbourne): Associated Medical Services Limited; all Institutes or Medical Dispensaries; Australian Prudential Association, Proprietary, Limited; Federated Mutual Medical Benefit Society; Mutual National Provident Club; National Provident Association; Hospital or other appointments outside Victoria.

Queensland Branch (Honorary Secretary, B.M.A. House, 225 Wickham Terrace, Brisbane, B.17): Brisbane Associated Friendly Societies' Medical Institute; Bundaberg Medical Institute. Members accepting LODGE appointments and those desiring to accept appointments to any COUNTRY HOSPITAL or position outside Australia are advised, in their own interests, to submit a copy of their Agreement to the Council before signing.

South Australian Branch (Honorary Secretary, 178 North Terrace, Adelaide): All Lodge appointments in South Australia; all Contract Practice appointments in South Australia.

Western Australian Branch (Honorary Secretary, 205 Saint George's Terrace, Perth): Norseman Hospital; all Contract Practice appointments in Western Australia. All government appointments with the exception of those of the Department of Public Health.

Editorial Notices.

MANUSCRIPTS forwarded to the office of this journal cannot under any circumstances be returned. Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary be stated.

All communications should be addressed to the Editor, THE MEDICAL JOURNAL OF AUSTRALIA, The Printing House, Seamer Street, Glebe, New South Wales (Telephones: MW 2651-2.)

Members and subscribers are requested to notify the Manager, THE MEDICAL JOURNAL OF AUSTRALIA, Seamer Street, Glebe, New South Wales, without delay, of any irregularity in the delivery of this journal. The management cannot accept any responsibility or recognize any claim arising out of non-receipt of journals unless such notification is received within one month.

SUBSCRIPTION RATES.—Medical students and others not receiving THE MEDICAL JOURNAL OF AUSTRALIA in virtue of membership of the Branches of the British Medical Association in the Commonwealth can become subscribers to the journal by applying to the Manager or through the usual agents and booksellers. Subscriptions can commence at the beginning of any quarter and are renewable on December 31. The rate is £1 *per annum* within Australia and the British Commonwealth of Nations, and £4 10s. *per annum* within America and foreign countries, payable in advance.